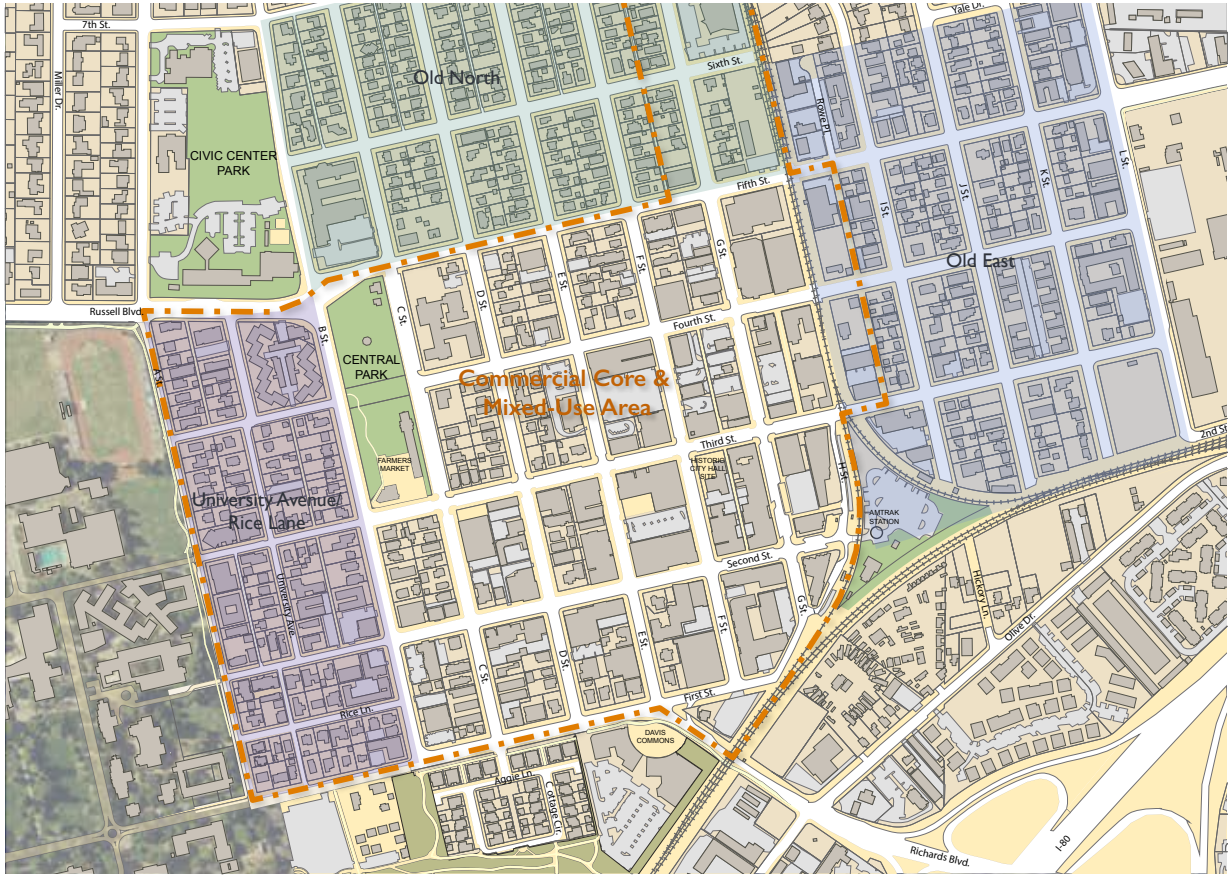


Davis, California

Downtown Davis Existing Conditions

March 2018

City of Davis Centennial 1917 - 2017

OPTICOS

This page intentionally left blank.

Prepared for

City of Davis
23 Russell Blvd Suite 2
Davis, CA 95616
(530) 757-5610

Prepared By:

Opticos Design, Inc.
2100 Milvia Street; Suite 125
Berkeley, California 94704
510.558.6957

With Consultants:

AIM Consulting
252 JStreet; Suite 202
Sacramento, CA 95816
916.442.1168

Urban3
2 Vanderbilt Place
Asheville, NC 28801
828.255.7951

Preservation Architecture
446 17th Street; Suite 302
Oakland, CA 94612
510.418.0285

Fehr & Peers
1001 K Street,
Sacramento, CA 95814
916.329.7332

Lotus Water
215 Kearny Street; Suite B
San Francisco, CA 94108
415.800.6805

Nelson\Nygaard
621 SW Morrison St.; Suite 1250
Portland, OR 97205,
503.227.3463

Farr Associates
53 West Jackson; Suite 650
Chicago, IL 60604
312.408 1661

PlaceWorks
1625 Shattuck Ave; Suite 300
Berkeley, CA 94709
510.848.3815

CITY OF DAVIS

City Council

Robb Davis (Mayor)
Brett Lee (Mayor Pro Tempore)
Will Arnold (Council Member)
Lucas Frerichs (Council Member)
Rochelle Swanson (Council Member)

Planning Commission

Rob Hofmann
Herman Boschken
Cheryl Essex
Stephen Mikesell
David Robertson
Darryl Rutherford
Stephen Streeter

Greg Rowe (Alternate)

Downtown Plan Advisory Committee (DPAC)

Meg Arnold
Catherine Brinkley
Michelle Byars
Josh Chapman
Judy Corbett
Mary DeWall
Chris Granger
Larry Guenther
Darren McCaffrey
John Meyer
Sinisa Novakovic
Eric Roe
Deema Tamimi
Randy Yackzan
Rob White

Key City Staff

Mike Webb (City Manager)
Ashley Feeney (Director of Community Development and Sustainability)
Bob Wolcott (Principal Planner, Project Manager)
Katherine Hess (Community Development Administrator)

Table of Contents

**IN PROCESS: 'Addendum: Economic and Market Analysis' is currently being prepared as an addition to Chapter 3: Fiscal Analysis*

Appendix

Introduction

PURPOSE OF THIS REPORT

The City of Davis is in the process of updating the Specific Plan of its Downtown, currently referred to as the 'Core Area'. Opticos Design Inc. with its team of consultants (the 'Consultant Team') is working with the City of Davis on this community-led planning effort.

As one of the initial steps in the Specific Plan process, this Existing Conditions report is being prepared by the project consultants as technical information and an analysis of existing conditions in the Downtown area as a basis for the upcoming visioning/ planning stages of the project. This report acknowledges that some of the information included here may need to be updated and refined.

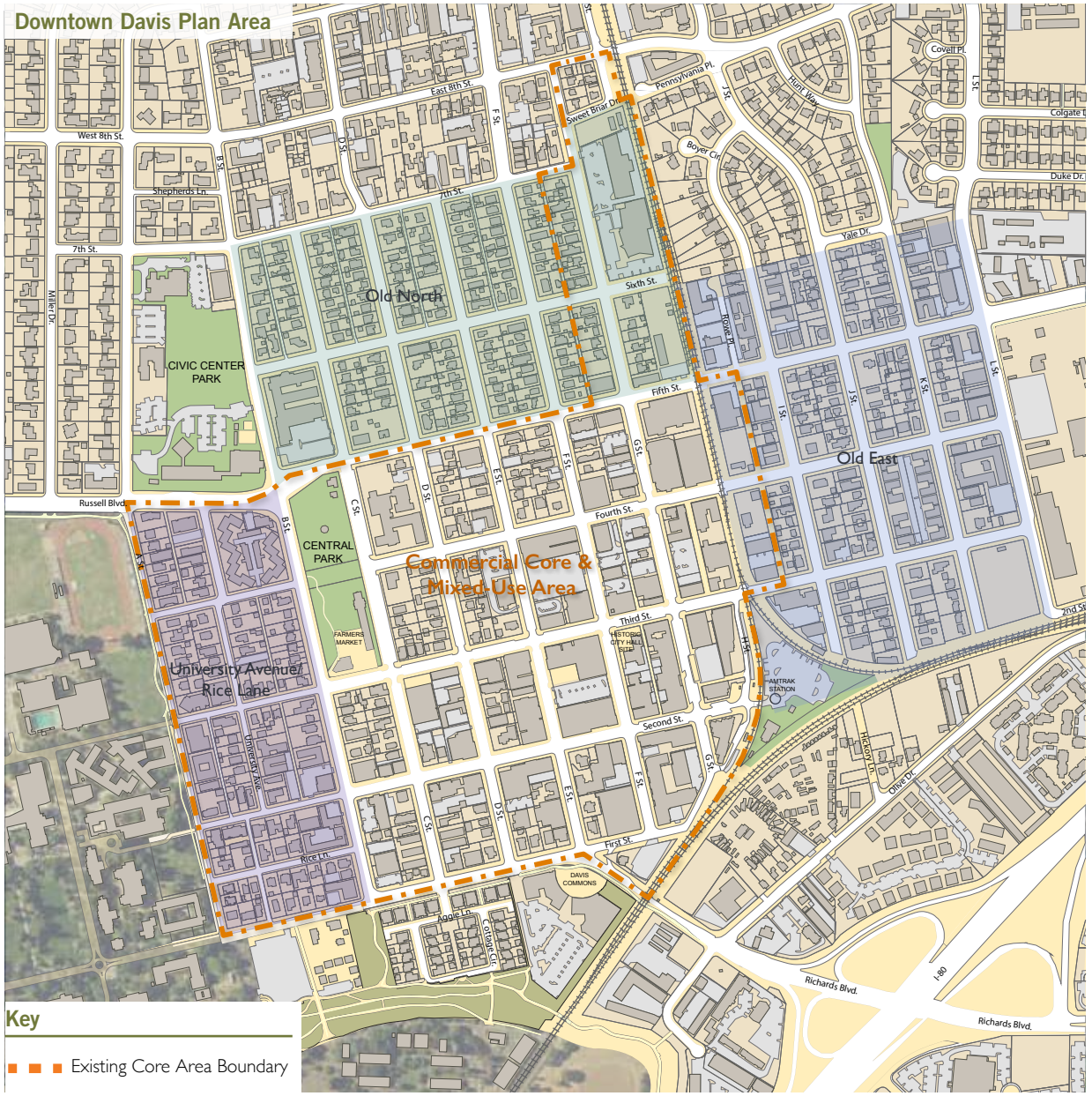
The Consultant Team is working directly with the City of Davis staff. This study is not related to Davis Downtown, a local business group (who, along with other community stakeholders, will be represented in the planning process).

PLAN AREA BOUNDARIES

The current Plan Area boundary follows the boundary of the existing Core Area Specific Plan. As the study progresses, this boundary may be adjusted based on the findings of the study and the need to include or remove certain areas to create a coherent area for the future Downtown Davis.

USE OF TERMINOLOGY

In this study, the terms 'Downtown Davis' and 'Core Area' indicate the same area within Davis. The term 'Downtown Davis' is the preferred term, since it is considered more



amenable to creating a sense of place and framing a unique identity for Davis. Thus, as the study progresses, this is the term that will be used in the Specific Plan to define the cultural and economic heart of the city. This area has also been referred to as 'Plan Area' where required (short for Downtown Davis Specific Plan Area).

However, most of the existing regulatory documents refer to this same area with the term 'Core Area'; and within the Core Area, the term 'Downtown Core' to indicate the blocks with the highest concentration of commercial uses. These terms have been used in this report where needed, to avoid possible confusion about which document is being referred to.

SOURCES OF INFORMATION

This Existing Conditions report has relied on existing City documents and reports made available by City staff as well as GIS information. The study also uses information derived from analysis carried out by the Consultant Team.

ORGANIZATION OF THIS REPORT

This report has been organized by topic into the following chapters:

1. Community Profile
2. Site and Context Analysis
3. Fiscal Analysis
4. Transportation
5. Parking and TDM Strategies
6. Infrastructure
7. Historical Resources
8. Sustainability
9. Appendices

PRELIMINARY DIRECTION

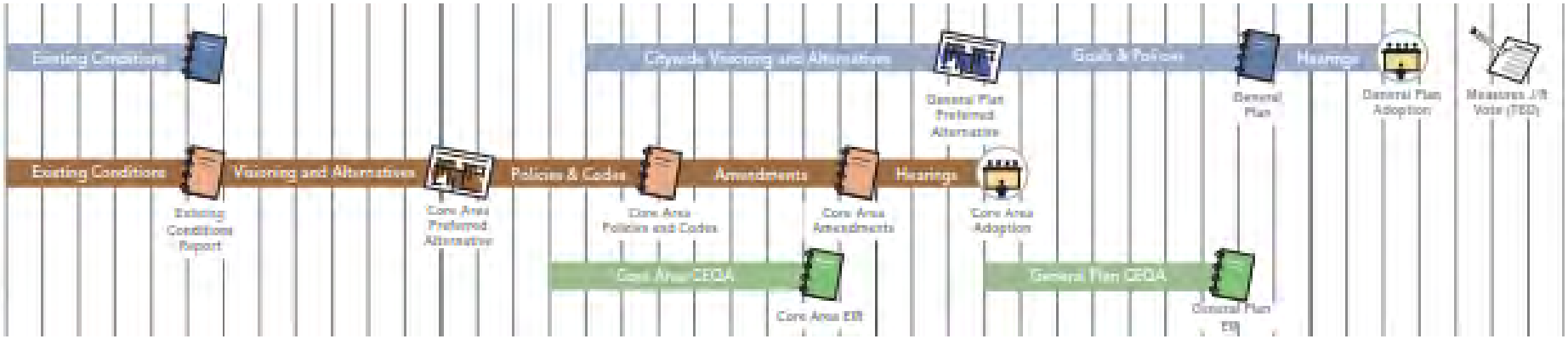
The State of the City Report (2017) identifies the direction for the Core Area (Downtown Davis) planning effort, adopted by City Council in a resolution in January 2017. These can be helpful in framing the Specific Plan approach, and can guide the Specific Plan process.

These include (refer page 5 of the State of the City Report):

- Explore a Form-Based Code approach
- Create an improved guide for long term policy decisions and development
- Create an improved guide for infrastructure
- Address recurring problems
- Determine implementation tools
- Be more clear, concise and innovative
- Maintain timeline and budget
- Continue processing development applications during the plan update
- Include and prioritize Community Engagement
- Advisory Committee to represent the community, give high-level policy input, and advise City Council

TIMELINE

The preliminary time frame over which the plan and its implementation would be most relevant has been decided as 20 years. A timeline for the Specific Plan and General Plan updates has been shown below, sourced from the State of the City Report (2017).



This page intentionally left blank.

Community Profile

chapter 1

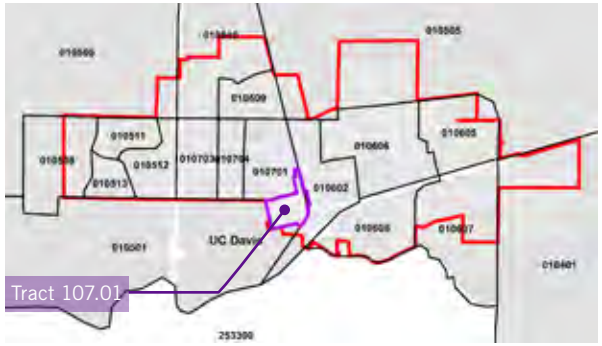
Author: Urban3

1.1 Demographics

The following data is for Block Group 4, Census Tract 107.01, which most closely mirrors the Downtown Davis (Core Area) Study Boundary. There are several parcels along G Street that are not encompassed in this data. When "Downtown Davis/ Core Area" is referenced in the Demographics Section, the definition of this area is Block Group 4, Census Tract 107.01.

An outline of existing and potential demographic trends in the City of Davis, the Davis Core Planning Area, the University of California - Davis (UC Davis) Census Designated Place (CDP), and Yolo County can be found in Appendix 8. The Davis Planning area is defined by Census Tracts most closely resembling the Davis General Plan Planning Area.

The demographic data within the Appendix were collected from the US Census Bureau, the California Department of Finance (DoF), and UC Davis. Population and household growth projections are from the Sacramento Area Council of Governments (SACOG). This data was harvested from the 2017 State of the City Report.



Block Group 4, Census Tract 107.01 above in purple
Data Source: City of Davis GIS, Yolo County Assessor

Figure 1.1.a

Total Population 1990 - 2016	1990	% of total	2000	% of total	2010	% of total	2015	% of total	Projected 2020	Projected 2036
Core Area Davis	-	-	-	-	606	0.30%	915	0.42%	-	-
City of Davis	46,209	32.72%	60,308	35.76%	65,622	32.67%	68,314	31.66%	73351	79240
UC Davis - total on and off campus	21,413	15.16%	29,146	17.28%	30,949	15.41%	34,535	16.00%	39000	
Yolo County	141,210		168,660		200,849		215,802		226967	285434

Source: US Census, California State Library, State of the City Report 2017, UC Davis, AreaVibes, City-data

Urban3

Figure 1.1.b

Percent Change in Total Population 1990 - 2016	1900 to 2000	2000 to 2010	2010 to 2016
City of Davis	30.51%	8.81%	4.10%
Yolo County	19.44%	19.09%	7.44%

Source: US Census

Figure 1.1.c

Household Type 1990 - 2016	1990 HH	1990 % of total	2000 HH	2000 % of total	2010 HH	2010 % of total	2015 HH	2015 % of total
City of Davis								
Families with children	8,210	22.90%	8,784	38.28%	11,925	47.94%	9,720	39.79%
Families without children	3,549	9.90%	2,507	10.92%	12,948	52.06%	2,749	11.25%
Householder living alone	6,167	17.20%	5,727	24.96%	2,404	9.67%	6,502	26.62%
Other Non Family Household	17,926	50.00%	5,930	25.84%	3,548	14.26%	5,455	22.33%
Total Households	35,852	100.00%	22,948	100.00%	24,873	100.00%	24,426	100.00%
Yolo County								
Families with children	32,184	63.14%	37,687	63.50%	44,101	62.20%	33,564	45.51%
Families without children	18,788	36.86%	21,671	36.50%	26,771	37.80%	11,308	15.33%
Householder living alone	5,291	10.38%	13,820	23.30%	16,251	22.90%	19,825	26.88%
Other Non Family Household	3,497	6.86%	7,821	13.20%	10,520	14.80%	9,057	12.28%
Total Households	50,972	100%	59,358	100%	70,872	100%	73,754	100%

Source: CA State Library, US Census

Urban3

POPULATION ESTIMATES

According to the California Department of Finance, there were approximately 68,314 people living in Davis population Davis in 2015, which represented 31.8 percent of the county-wide population (Figure 1.1a). Davis is a city dependent on the employment centers of Sacramento and UC Davis, and the population and demographic dynamics reflect this dependency. In Downtown Davis (Core Area), precise Race and Ethnicity data is not available, as it does not fit within one single census tract.

However, data for Census Tract 010701 reveals that Downtown Davis is overwhelmingly White and Asian, much like the rest of the City (Figure 1.1.h).

Figure 1.1.d

Resident Age 1990 - 2015	2000 Persons	2000 % of total	2010 Persons	2010 % of total	2015 Persons	2015 % of total	Average Annual Change 2000 to 2010	Average Annual Change 2010 to 2015
City of Davis								
0 to 17 years	11,236	18.63%	10,760	17.17%	11,549	17.07%	-4.24%	7.33%
18 - 34 years	27,661	45.87%	30,285	48.33%	29,315	43.33%	9.49%	-3.20%
35 - 54 years	14,155	23.47%	13,102	20.91%	12,557	18.56%	-7.44%	-4.16%
55 - 64 years	3,252	5.39%	5,878	9.38%	5,718	8.45%	80.75%	-2.72%
65 - 74 years	1,976	3.28%	2,957	4.72%	4,944	7.31%	49.65%	67.20%
75 years+	2028	3.36%	2640	4.21%	3573	5.28%	30.18%	35.34%
Total	60,308	100%	62,665	100%	67,656	100%	3.91%	7.96%
Yolo County								
0 to 17 years	42,479	25.19%	47,164	23.48%	45,963	21.58%	11.03%	-2.55%
18 - 34 years	54,619	32.38%	65,012	32.37%	70,175	32.94%	19.03%	7.94%
35 - 54 years	44,167	26.19%	48,743	24.27%	49,724	23.34%	10.36%	2.01%
55 - 64 years	11,613	6.89%	20,159	10.04%	21,619	10.15%	73.59%	7.24%
65 - 74 years	8,056	4.78%	10,570	5.26%	15,362	7.21%	31.21%	45.34%
75 years and over	7,726	4.58%	9,201	4.58%	10,173	4.78%	19.09%	10.56%
Total	168,660	100%	200,849	100%	213,016	100%	19.09%	6.06%

Figure 1.1.e

Source: CA State Library, US Census

Median Age	1990	2000	2010	2015	Average Annual Change in % 1990 to 2000	Average Annual Change in % 2000 to 2010	Average Annual Change in % 2010 to 2015
Core Area Davis				24			
City of Davis	22.6	25.2	25.2	26.3	11.50%	0.00%	4.37%
Yolo County	28.9	29.5	30.4	31.3	2.08%	3.05%	2.96%

Source: CA State Library

Urban3

The total population for Downtown Davis (Core Area) is 737 persons, and the density is 3,829.6 persons per acre. This density is lower than the city-wide population density of 6,764.9 persons per acre. The small amount of housing in Downtown at 403 units, and the large proportion of non-residential properties, account for this lower population density.

The majority of persons residing in Downtown Davis are between 18 and 24 years old. This population accounts for 64.7% of residents. The second largest age group is made up of persons aged 25 to 34 years at 13.8% of the population. This 18-34 year old age group is most likely made up of undergraduate and graduate students. It should be noted that only 19 persons under the age of 18 reside in Downtown Davis. This data clearly illustrates that young family residents are largely absent from Downtown Davis.

Similar to the overall racial makeup of the city, Downtown Davis is 70.3% White Alone and 22.1% Asian Alone. City wide the White Alone population is 63.9% and the Asian Alone is nearly the same as Downtown Davis at 22.2%. (Source: U.S. Census Bureau).

Figure 1.1.f

Block Group 4, Census Tract 107.01, City of Davis Core Area

Population Density (per Sq. Mile)		
Total Population	737	
Population Density (Per Sq. Mile)	3,829.6	
Area (Land)	0.19	

Figure 1.1.g

Block Group 4, Census Tract 107.01, City of Davis Core Area

Age		
Total Population:	737	
Under 5 Years	11	1.5%
5 to 9 Years	0	0.0%
10 to 14 Years	0	0.0%
15 to 17 Years	8	1.1%
18 to 24 Years	477	64.7%
25 to 34 Years	102	13.8%
35 to 44 Years	45	6.1%
45 to 54 Years	38	5.2%
55 to 64 Years	0	0.0%
65 to 74 Years	29	3.9%
75 to 84 Years	14	1.9%
85 Years and Over	13	1.8%

Figure 1.1.h

Block Group 4, Census Tract 107.01, City of Davis Core Area

Race		
Total Population:	737	
White Alone	518	70.3%
Black or African American Alone	4	0.5%
American Indian and Alaska Native Alone	0	0.0%
Asian Alone	163	22.1%
Native Hawaiian and Other Pacific Islander Alone	6	0.8%
Some Other Race Alone	4	0.5%
Two or More Races	42	5.7%

In Downtown Davis, there are 341 total households, with the majority of those being Nonfamily households at 82.1%. Interestingly, Female Householders make up the majority of the Nonfamily households at 50.2%.

The data available for the Downtown Davis Educational Attainment shows the largest number of the population has a High School Degree, with the second largest group holding Bachelor's Degrees. Given that the total population of Downtown Davis is listed as 737, but this data available for Educational Attainment only lists the population of 25 years and over at 241, we must infer some data is missing for a portion of the population.

Interestingly, 33% of residents in Downtown Davis earn less than $10,000 annually, with 63.3% of Downtown Davis residents earning less than $20,000 per year. This income data places these residents in one of two categories: either living below the poverty line for the City or full-time students.

Figure 1.1.i

Block Group 4, Census Tract 107.01, City of Davis
Core Area

Households by Household Type		
Households:	341	
Family Households:	61	17.9%
Married-Couple Family	61	17.9%
Other Family:	0	0.0%
Male Householder, No Wife Present	0	0.0%
Female Householder, No Husband	0	0.0%
Nonfamily Households:	280	82.1%
Male Householder	109	32.0%
Female Householder	171	50.2%

Source: ACS 2016 (5-Year Estimates) (SE), ACS 2016 (5-Year Estimates), Social E

Figure 1.1.j

Block Group 4, Census Tract 107.01, City of Davis
Core Area

Educational Attainment for Population 25 Years and Over		
Population 25 Years and Over:	241	
Less than High School	0	0.0%
High School Graduate (Includes Equivalency)	69	28.6%
Some College	45	18.7%
Bachelor's Degree	60	24.9%
Master's Degree	0	0.0%
Professional School Degree	38	15.8%
Doctorate Degree	29	12.0%

Figure 1.1.k

Block Group 4, Census Tract 107.01, City of Davis
Core Area

Household Income (In 2016 Inflation Adjusted Dollars)		
Households:	341	
Less than $10,000	113	33.1%
$10,000 to $14,999	55	16.1%
$15,000 to $19,999	48	14.1%
$20,000 to $24,999	0	0.0%
$25,000 to $29,999	0	0.0%
$30,000 to $34,999	14	4.1%
$35,000 to $39,999	0	0.0%
$40,000 to $44,999	16	4.7%
$45,000 to $49,999	0	0.0%
$50,000 to $59,999	21	6.2%
$60,000 to $74,999	13	3.8%
$75,000 to $99,999	30	8.8%
$100,000 to $124,999	11	3.2%
$125,000 to $149,999	0	0.0%
$150,000 to $199,999	0	0.0%
$200,000 or More	20	5.9%

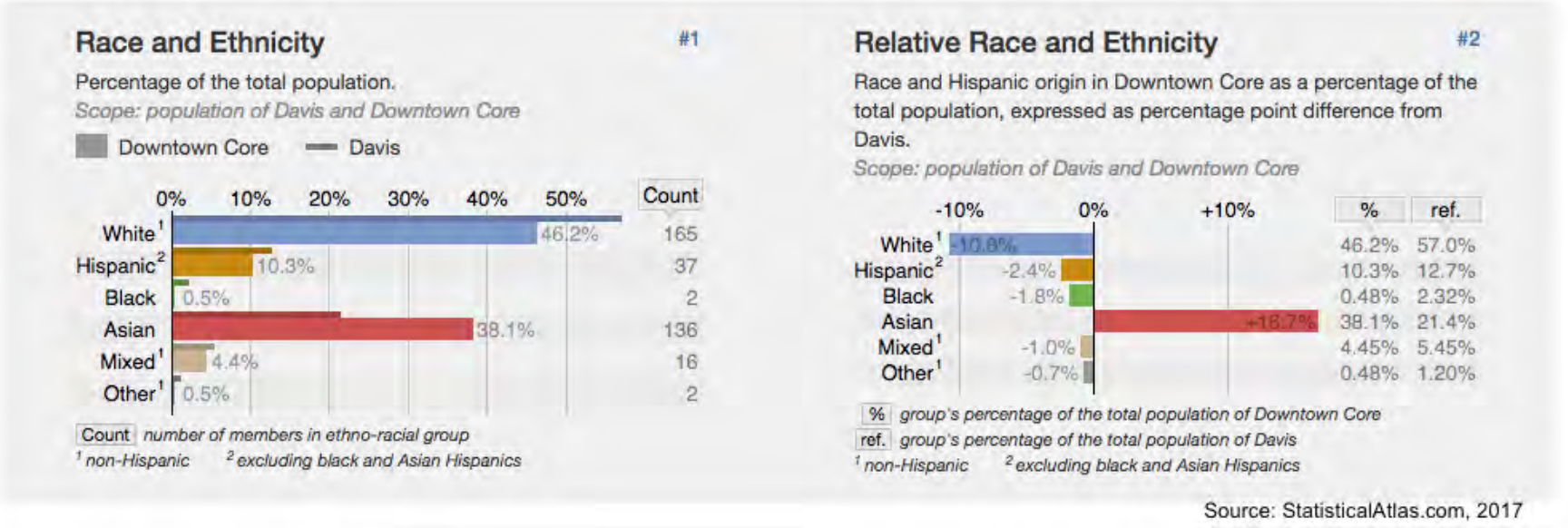
Figure 1.1.l

Race and Ethnicity 1900 - 2015	1990	2000	2010	2015	Average Annual Change 1990 to 2000	Average Annual Change 2000 to 2010	Average Annual Change 2010 to 2015
City of Davis							
White Alone	36,851	39,714	38,641	38,255	7.77%	-2.70%	-1.00%
Black or African American	1,391	1,354	1,415	1,334	-2.66%	4.51%	-5.72%
American Indian and Alaska Native Alone	337	274	166	97	-18.69%	-39.42%	-41.57%
Asian alone	6,083	10,514	14,213	14,649	72.84%	35.18%	3.07%
Native Hawaiin and other Pacific Islander	80	134	120	98	67.50%	-10.45%	-18.33%
Hispanic or Latino (any race)	1,467	5,793	8,172	9,041	294.89%	41.07%	10.63%
Other	-	2,525	2,895	4,182	-	14.65%	44.46%
Total	46,209	60,308	65,622	67,656	30.51%	8.81%	3.10%
Yolo County							
White Alone	107113	97942	100240	101,266	-8.56%	2.35%	1.02%
Black or African American	3172	3133	4752	5,504	-1.23%	51.68%	15.82%
American Indian and Alaska Native Alone	1741	1165	1098	402	-33.08%	-5.75%	-63.39%
Asian alone	11914	16390	25640	29,396	37.57%	56.44%	14.65%
Native Hawaiin and other Pacific Islander	333	443	817	515	33.03%	84.42%	-36.96%
Hispanic or Latino (any race)	10288	43707	60953	67,163	324.83%	39.46%	10.19%
Other	6531	5880	7349	8,770	-9.97%	24.98%	19.34%
Total	141092	168660	200849	213,016	19.54%	19.09%	6.06%

Source: US Dept of Commerce Census 90', US Census Bureau

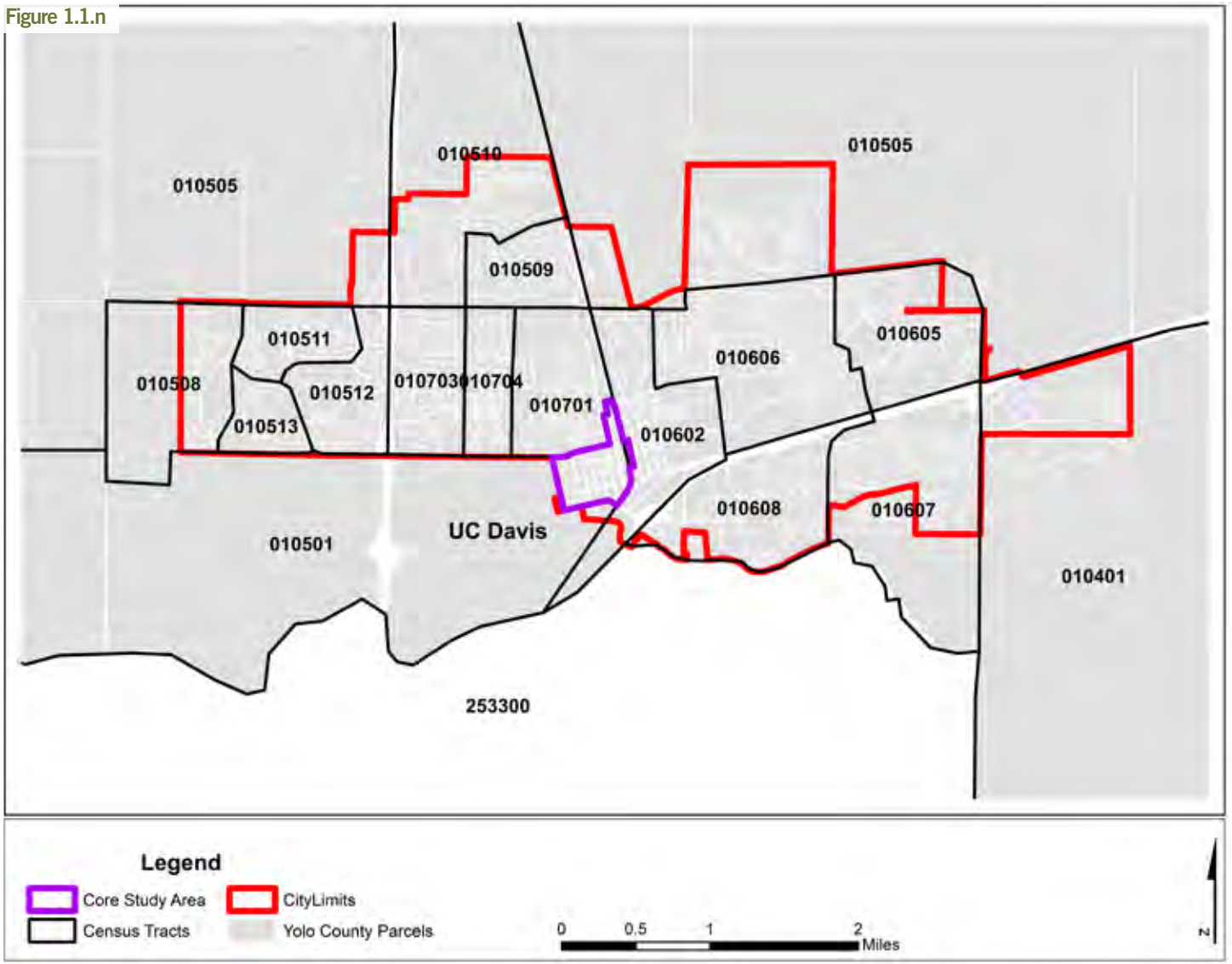
Urban3

Figure 1.1.m



Source: StatisticalAtlas.com, 2017

Figure 1.1.n



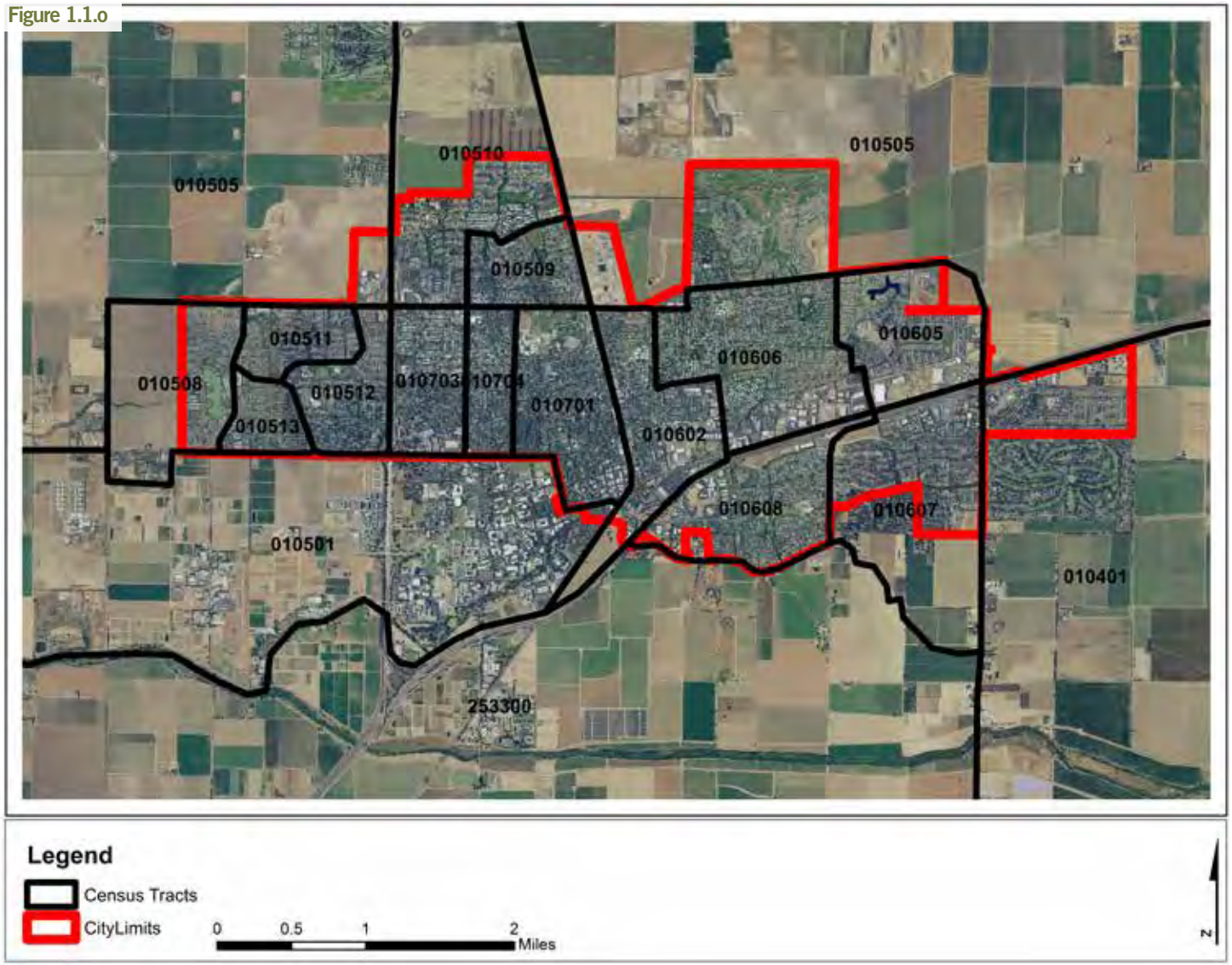
Data Source: City of Davis GIS, Yolo County Assessor

CENSUS TRACTS

The City of Davis contains 17 total Census tracts, shown in Figure 1.1.n. The numbers on the map represent census tract numbers. The purpose of this map is to show that because the Downtown is a subset of a larger census tract exact demographics are difficult to determine.

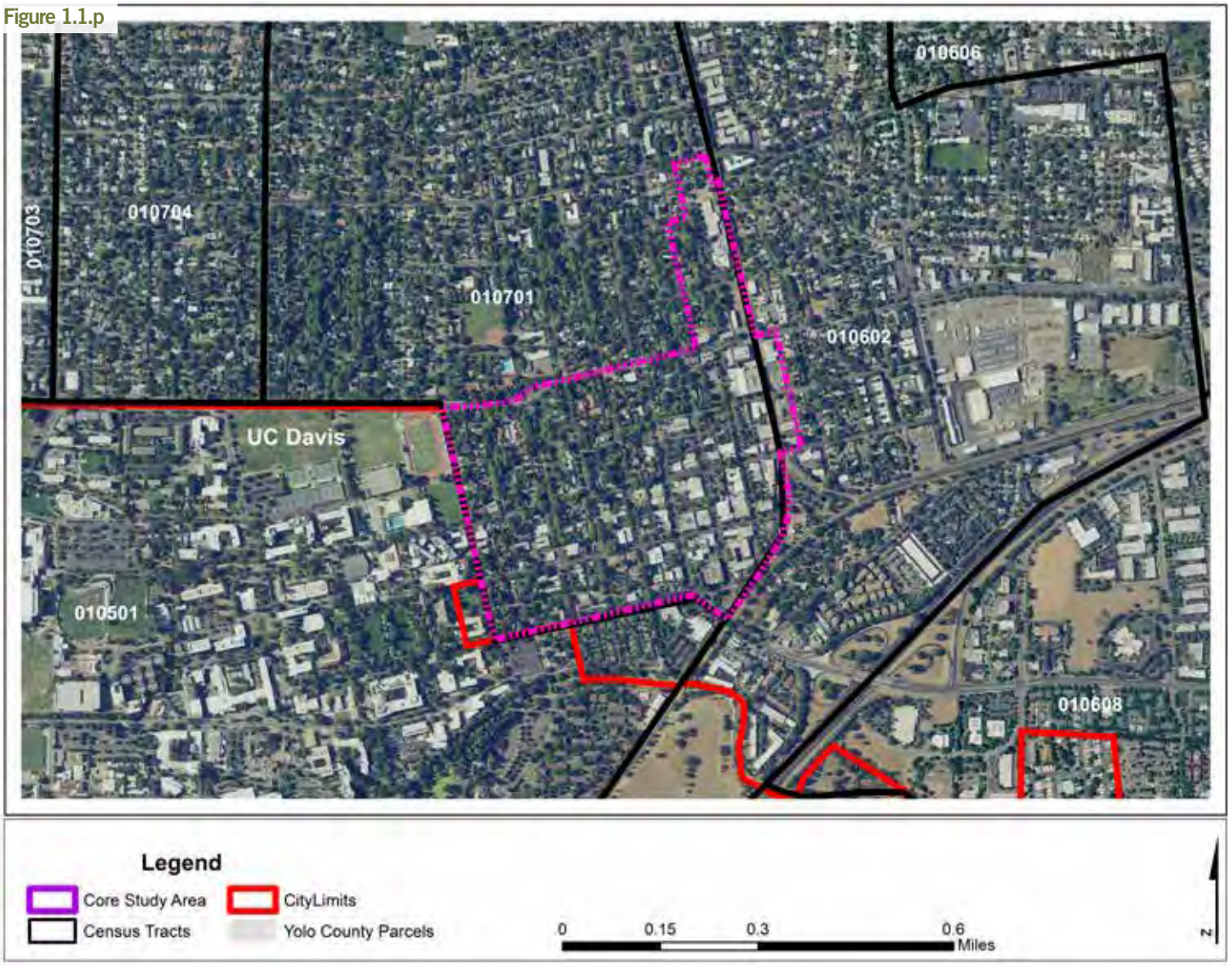
The City is surrounded by a ring of agricultural parcels, as shown in Figure 1.1.o.

Figure 1.1.o



Data Source: City of Davis GIS, Yolo County Assessor

Figure 1.1.p



Data Source: City of Davis GIS, Yolo County Assessor

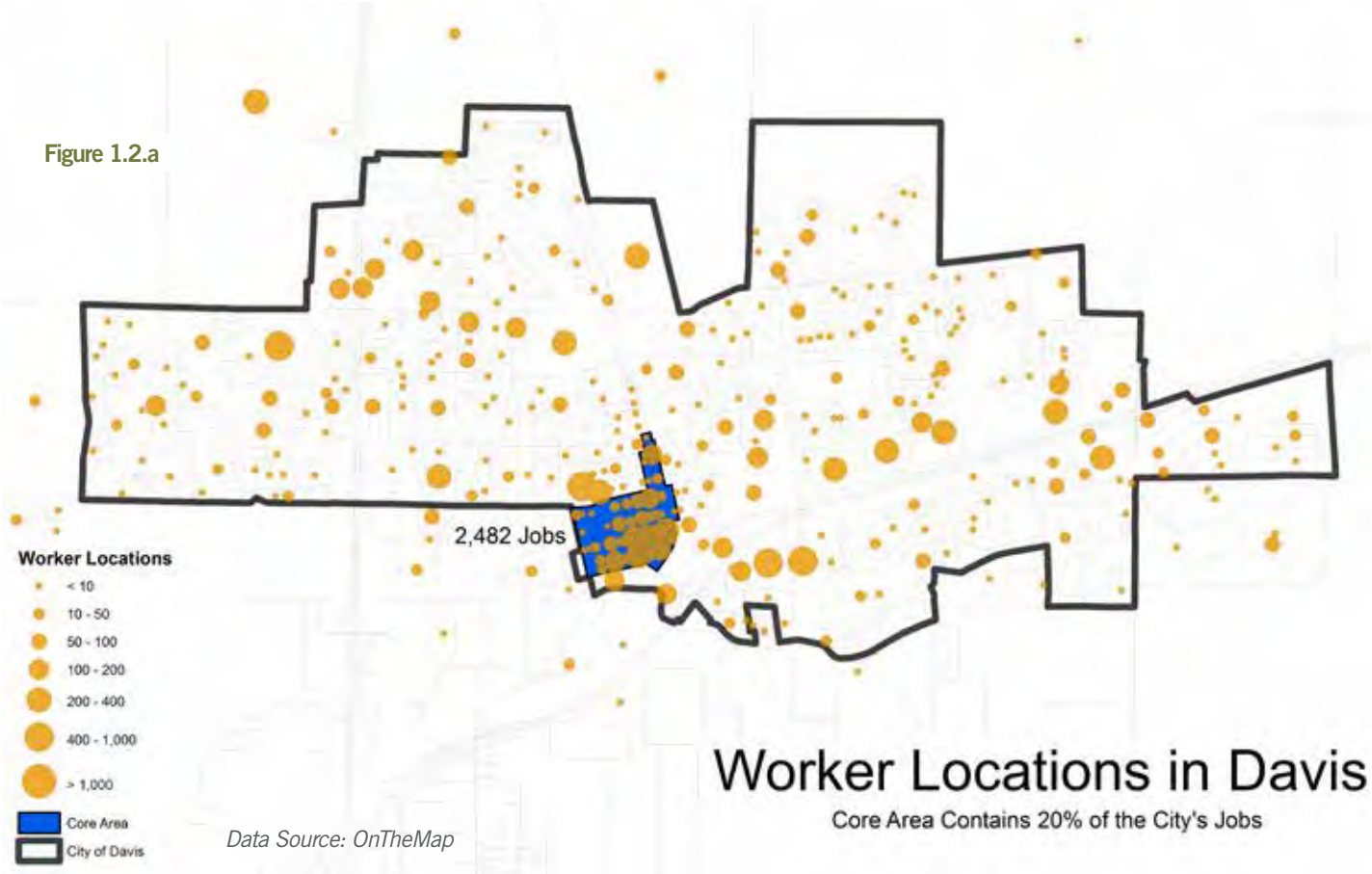
As shown in Figure 1.1.p, the Downtown Davis Study Area is predominantly within Census Tract 010701, with a half of two blocks along G Street between 3rd and 5th Avenue lying within the abutting Census Tract 010602.

1.2 Commute Patterns

WORKER LOCATIONS CITY-WIDE AND CORE AREA

Employees of businesses located in Downtown Davis live all over the City, and beyond. However, Downtown Davis (Core Area) has the highest concentration of jobs. There are a total of 2,482 jobs, most of which are located along 2nd and 3rd Street corridors, which is 20% of all jobs located within the City (Figure 1.2.a).

Figure 1.2.a



Data Source: OnTheMap

WHERE DOWNTOWN WORKERS LIVE

According to US Census ('OntheMap' analysis), there are 31,648 total employees in the City of Davis. Of those employees, 18,959 leave the City for other job locations, and 9,003 come into the City to work. This creates a net of 3,686 jobs within the City limits. This represents a net loss of 6,270 jobs (Figure 1.2.b).

Downtown Davis (Core Area) imports 2,450 employees who live outside the area, and 309 live in Downtown Davis and work outside it. Only 14 workers both live and work in Downtown Davis.

Figure 1.2.b: Job Inflow / Outflow, Citywide

Data Source: OnTheMap

Inflow/Outflow Job Counts (Primary Jobs)

	2015	
	Count	Share
Employed in the Selection Area	12,689	100.0%
Employed in the Selection Area but Living Outside	9,003	71.0%
Employed and Living in the Selection Area	3,686	29.0%
Living in the Selection Area	22,645	100.0%
Living in the Selection Area but Employed Outside	18,959	83.7%
Living and Employed in the		

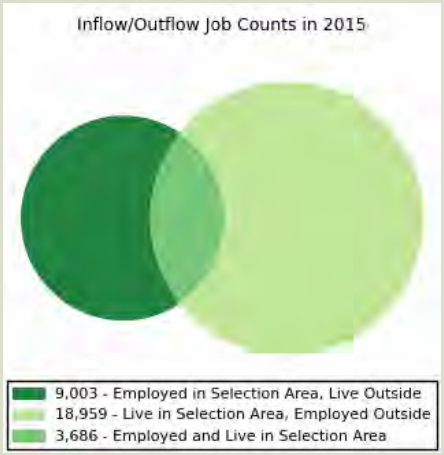
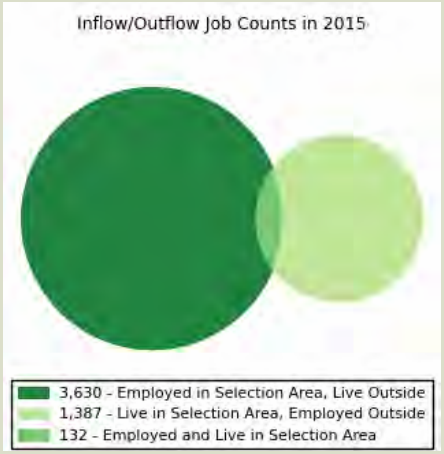


Figure 1.2.c: Job Inflow / Outflow, Downtown Davis

Data Source: OnTheMap

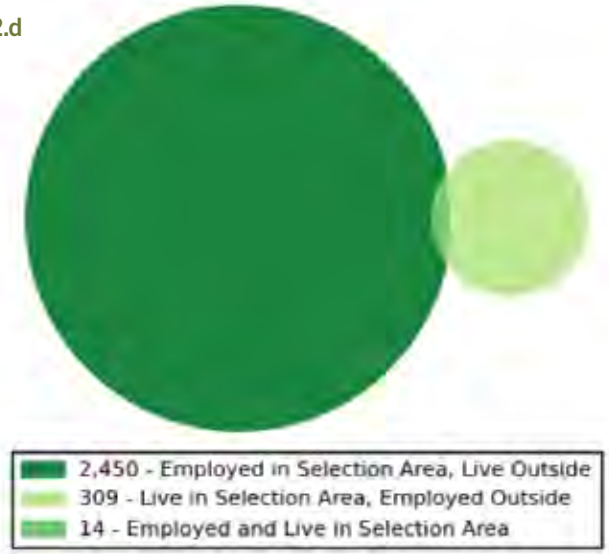
Inflow/Outflow Job Counts (Primary Jobs)

	2015	
	Count	Share
Employed in the Selection Area	3,762	100.0%
Employed in the Selection Area but Living Outside	3,630	96.5%
Employed and Living in the Selection Area	132	3.5%
Living in the Selection Area	1,519	100.0%
Living in the Selection Area but Employed Outside	1,387	91.3%
Living and Employed in the		



There are 323 workers residing in Downtown Davis (Figure 1.2.d) 14 work in Downtown, 52 commute to Sacramento, which is more than the 46 people who work in Greater Davis outside of Downtown Davis. What is stunning is that only 2 people who live in Downtown Davis work at UC Davis, a major employer in the region. However, 4 people commute to San Francisco and 3 to Palo Alto for employment.

Figure 1.2.d



There are **323** "workers" residing in the core area, here's where some commute:

Davis Core	14 people
Sacramento	52 people
Davis (outside core)	46 people
San Francisco	4 people
Palo Alto	3 people
UC Davis	2 people

Data Source: OnTheMap

Figure 1.2.e

Source: US Census, OnTheMap

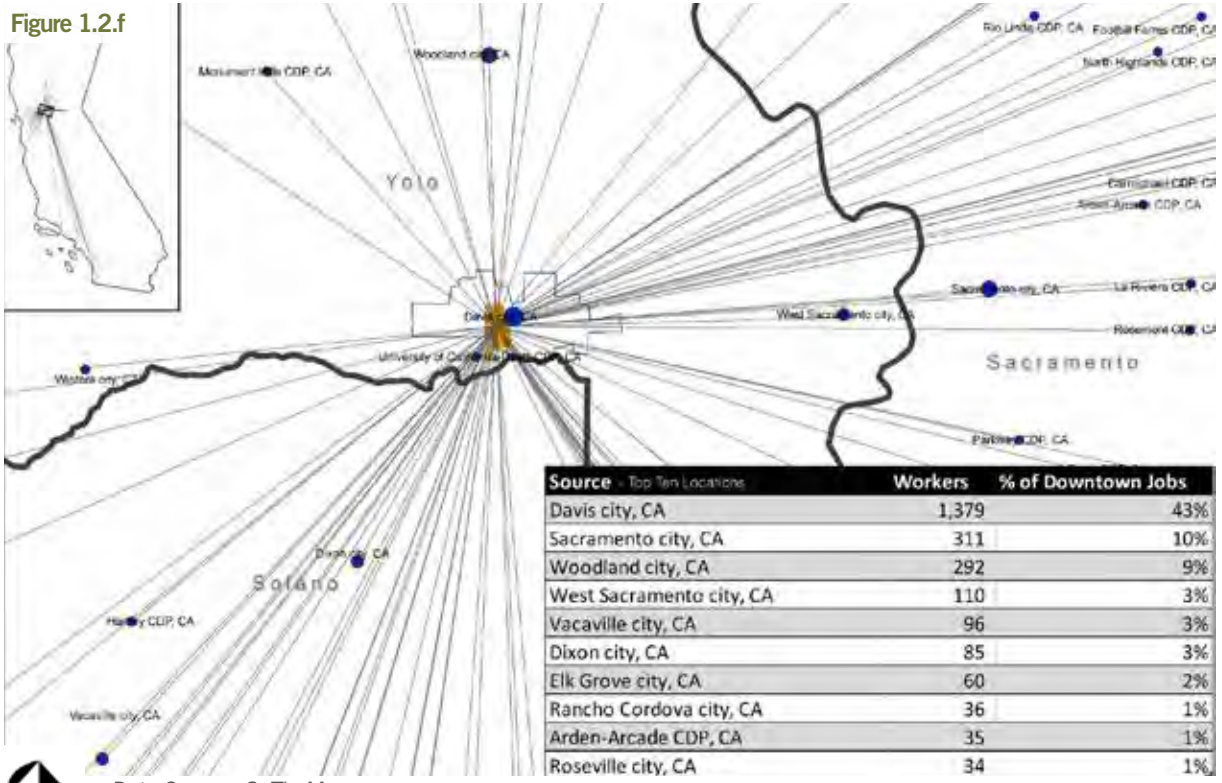
This map shows the boundary that was used to determine employment statistics for the downtown core. Data Source: City of Davis GIS, Yolo County Assessor

DOWNTOWN JOBS INFLOW

This graphic depicts the top ten places from which employees come to work in Downtown Davis. Sacramento is clearly the highest exporter of jobs to Davis. Although there could be flaws in the data, it is interesting to note that some commute from as far as San Diego to work within the City of Davis (Figure 1.2.f).

The study area for this graphic is the census tract that contains the majority of the downtown core (census tract 010701).

Figure 1.2.f



Source - Top Ten Locations	Workers	% of Downtown Jobs
Davis city, CA	1,379	43%
Sacramento city, CA	311	10%
Woodland city, CA	292	9%
West Sacramento city, CA	110	3%
Vacaville city, CA	96	3%
Dixon city, CA	85	3%
Elk Grove city, CA	60	2%
Rancho Cordova city, CA	36	1%
Arden-Arcade CDP, CA	35	1%
Roseville city, CA	34	1%

Data Source: OnTheMap

Figure 1.2.g

Davis Commute Flows for City of Davis	2004 Number	2004 Percent	2014 Number	2014 Percent	Percent Change Percent
Employed in Area	32,416		28,465		-12.19%
Live outside area	21,562	66.52%	21,016	73.83%	-2.53%
Live within area	10,854	50.34%	7,449	35.44%	-31.37%
Living in Area	24,017		24,104		0.36%
Work outside area	13,163	54.81%	16,655	69.10%	26.53%
Work within area	10,854	82.46%	7,449	44.73%	-31.37%
Net Inflow/Outflow	8,399		4,361		-48.08%

source: State of the City

Urban3

WORKER LOCATIONS CITY-WIDE AND CORE AREA

The Downtown Davis (Core Area) is home to an estimated 737 residents. The Downtown Davis population has grown over the years, but will not increase substantially until more housing units are constructed. The fact that the population density of Downtown Davis at 5.58 persons per acre is substantially less than the city-wide population density of 6,764.9 illustrates the lack of available housing in Downtown Davis. In comparison, the population density in nearby downtown Sacramento is 9,989.3 (Source: US Census, Sacramento, CA Census Tract 13, Figure 1.1.f).

The racial and ethnic makeup of Downtown Davis largely mirrors that of the city-wide population, with White Only and Asian Only representing the majorities at 63.9% and 22.2% respectively (Figure 1.1.l). These statistics echo the larger makeup of the State of California, with a makeup of 72.7% White Alone and 14.8% Asian Only statewide (Source: US Census).

Downtown Davis residents are millennials living in Nonfamily households. The majority of residents are under the age of 34, with the largest group under the age of 24 at 64.7% of residents (Figure 1.1g). Additionally, 82.1% of households are Nonfamily in nature (Figure 1.1i). Millennials have different preferences than other age groups, which can include: a desire for shared amenities, easy access to public and informal gathering places, eating and entertainment opportunities within walking distance, and access to transit and active infrastructure (source: CityLab http://bit.ly/2ETxhJK).

Residents of Downtown Davis must be predominantly students, as income levels are extremely low in comparison with city-wide incomes. With 63% of Downtown Davis residents earning less than $20,000 per year, and of that amount, 33% earning less than $10,000 annually, one can infer that many of these residents are full time students.

A limited number of residents both live and work in Downtown Davis. Workers in Downtown Davis that live there as well only total 14. According to data available, only 2 people who live in Downtown Davis work at UC Davis, the area's largest employer. These numbers correlate the inference that many of the residents of Downtown Davis are full time students.

Site and Context Analysis

chapter 2

Author: Opticos Design, Inc.

2.1 Regional Context

DAVIS WITHIN THE REGION

The City of Davis is in California's Sacramento Valley, 50 miles north-east of San Francisco and 15 miles west of Sacramento. Located in the south-east corner of Yolo County, Davis is surrounded by agricultural land. Nearby cities are Woodland to the north, Winters to the west, West Sacramento to the east and Dixon to the south-west in Solano county.

The City has an area of approximately 9.9 square miles (6,356 acres), with a 'Planning Area' spanning 160 square miles (102,400 acres) that includes agricultural land in unincorporated Yolo County outside city limits and some land in Solano County to its south. The distribution of major land uses is shown below in Figure 2.1.a.

Figure 2.1.a: General Plan Land Use Designations within Planning Area

Land Use Designations	Gross Land Area	Ratio
Residential	3,975 ac	62.5%
Mixed-use	17 ac	0.3%
Commercial	281 ac	4.4%
Office/ Industrial	402 ac	6.3%
Institutional/ Public	522 ac	8.2%
Parks & Open Space	692 ac	10.9%
Urban Reserve	0 ac	0%
Agriculture	23 ac	0.4%
Gateway/Olive Drive SP	82 ac	1.3%
Core Area SP	132 ac	2.1%
Total Land Use	**6,126 ac**	**96.4%**
I-80 & SR-113 ROW	230 ac	3.6%
Grand Total	**6,356 ac**	**100%**

REGIONAL CONNECTIVITY

Davis is accessed by Interstate 80 and the Union Pacific Railroad line provides intercity rail service including the Capitol Corridor, the Coast Starlight, and the California Zephyr lines. The Capitol Corridor connects Davis to Sacramento and Roseville to the east and the Bay Area to the west, with 15 daily round-trips at approximately hourly headways. With over 1,200 daily boardings, Davis is the seventh-busiest of 74 California Amtrak stations; and the third-busiest station on the Capitol Corridor line, accounting for 10% of its total ridership.

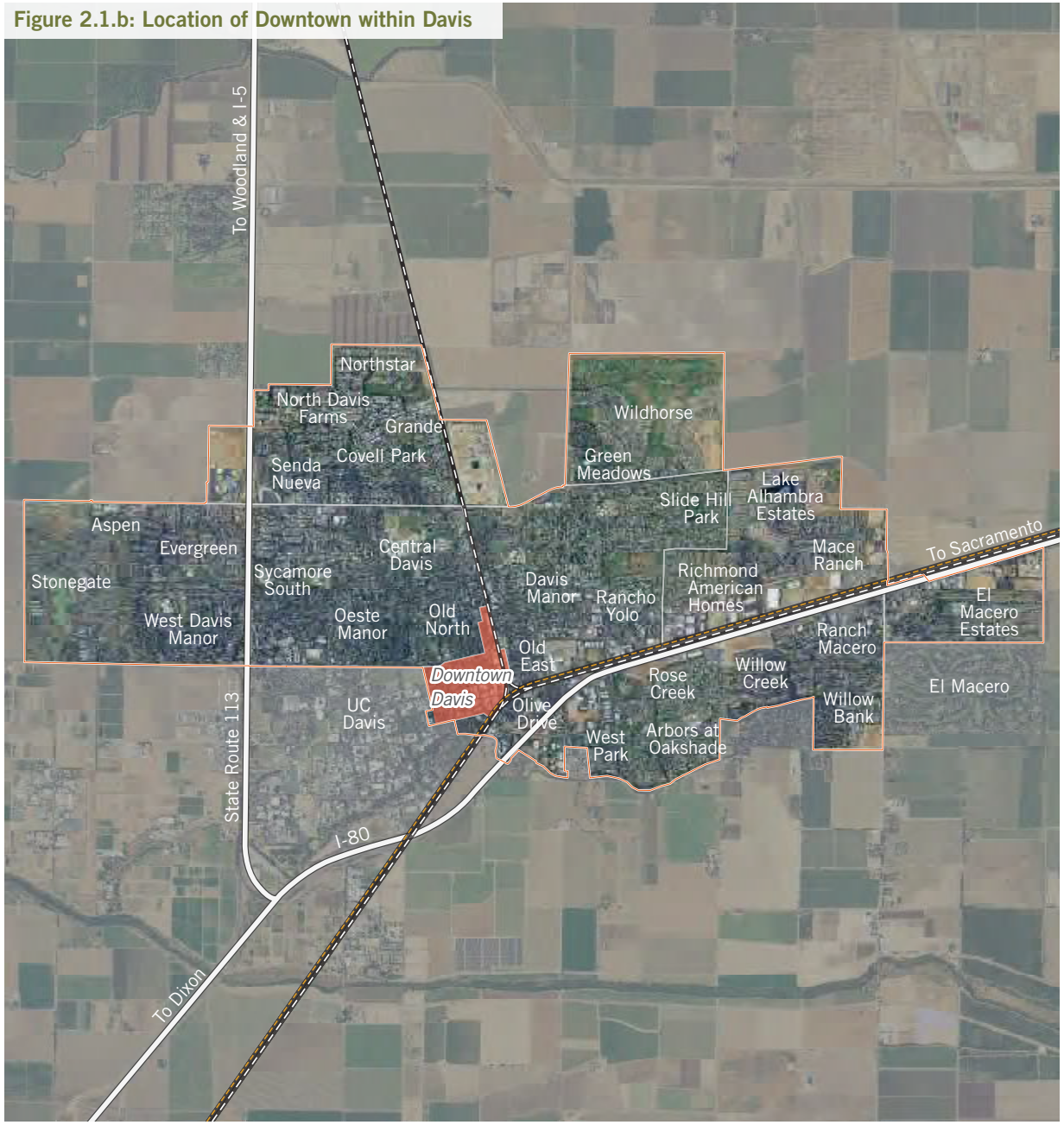
Regional Yolobus service, operated by the Yolo County Transportation District, provides intercity and commuter bus service throughout Yolo County and downtown Sacramento, connecting Davis to Woodland, West and downtown Sacramento as well as the Sacramento International Airport. Local airports at UC Davis and the Yolo County Airport are used mainly for private planes.

NATURAL FEATURES

Davis is located in the eastern part of the Putah Creek Plain, the main regional watershed encompassing parts of Lake, Napa, Solano and Yolo counties. Putah Creek used to flow near Downtown Davis, but early settlers redirected it south of the city. Levees were added by the Army Corps of Engineers in the 1940s and in 1957, the Monticello Dam was constructed, forming Lake Berryessa, the dam's reservoir. To the east of the city, the Yolo Bypass, a 2-mile wide regional flood protection drainage channel, separates Davis from West Sacramento. The land in the region is relatively flat, with slopes generally less than 1% and elevations ranging from 60 feet in west Davis to 25 feet in the east.

The nearest prominent natural features are the foothills of the Coast Range 14 miles to the west, and the Sacramento River 11 miles to the east. Though the land surrounding Davis has been altered from its natural state for agricultural purposes, some natural and restored habitat areas remain, such as marshy wetlands and ponds. Along with several other public agencies, the City of Davis manage a range of wetlands, agricultural preserves, detention ponds and easements to protect natural habitat and wildlife species.

Figure 2.1.b: Location of Downtown within Davis



Key

- City Boundary
- Rail Line
- Amtrak
- Highway
- Downtown Davis

0' 100' 1 1/8 mile 2 1/4 mile

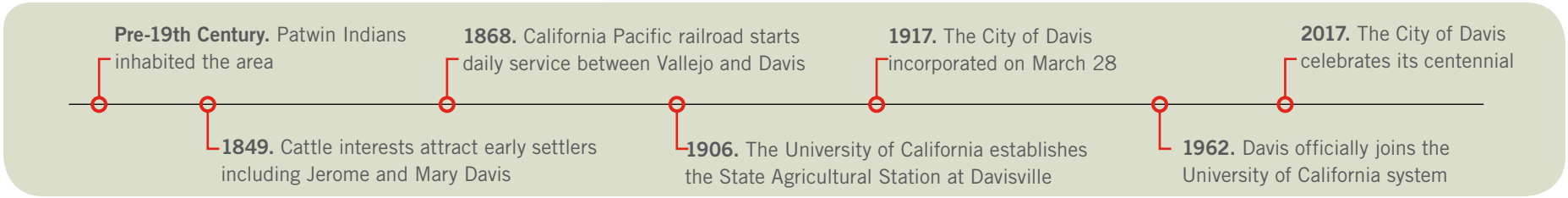
HISTORY OF SETTLEMENT

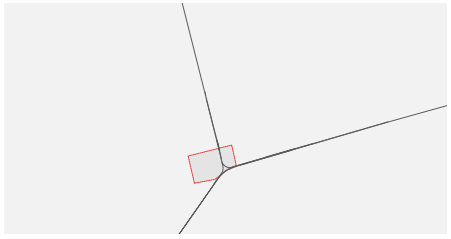
The original settlers in the area were the Patwin Indians, who thrived in the region's fertile land and mild climate. In the 19th century, European settlers started settling in the area for farming and raising cattle. In 1849, the Davis town site was established north of Putah Creek, named after the Patwin village of 'Putato'. Prominent early settlers were Jerome and Mary Davis, who owned 12,000 acres of land by 1858. They sold 3000 acres of their land to developers of the California Pacific railroad and by 1868, there was daily train service from Vallejo to Davis. This led to a construction boom and by 1870 there were 400 citizens in Davisville. The official recorded town plat consisted of 32 blocks fronting Putah Creek, covering an area of 119 acres. The next prominent milestone in Davis' history was 1906, when the University of California established a State Agricultural Station on 778 acres at Davisville. This was the start of an important relationship with the university which continues to influence Davis' identity even today. A fire in 1916 motivated the citizens of Davisville to incorporate as the City of Davis, which became official on March 28, 1917.

Since then, through the 1970s, the city grew at a steady pace. In 1962, Davis became an official campus of the University of Davis (UC Davis) system, and this spurred further growth. In 2017, UC Davis is the largest of the University of California campuses, occupying 3,600 acres adjacent to Davis, and a total of 5,200 acres. It has an enrollment of more than 30,000 students and is the major employer for the city, accounting for over 12,000 jobs in Davis (37% of total jobs in Davis). 70% of UC Davis students live in Davis, occupying a third of all housing units in the city. 50% of UC Davis employees live within Davis as well.

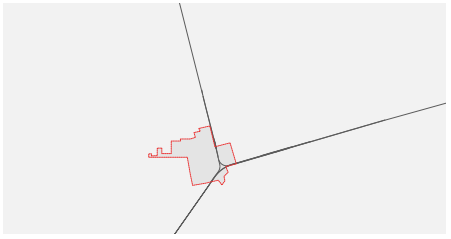
In 2017, the City of Davis celebrated its Centennial. With a population of 68,000, it enjoys the status of a small sized city with a significant regional impact. Over the years, it has established a reputation for promoting progressive values, environmental conservation and maintaining its unique identity and small town character.

Figure 2.1.c: History of Davis Development

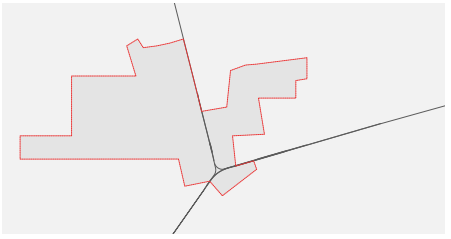




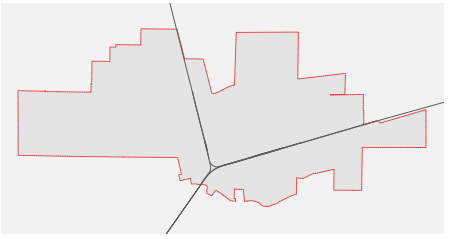
Davis, 1917



Davis, 1937



Davis, 1970

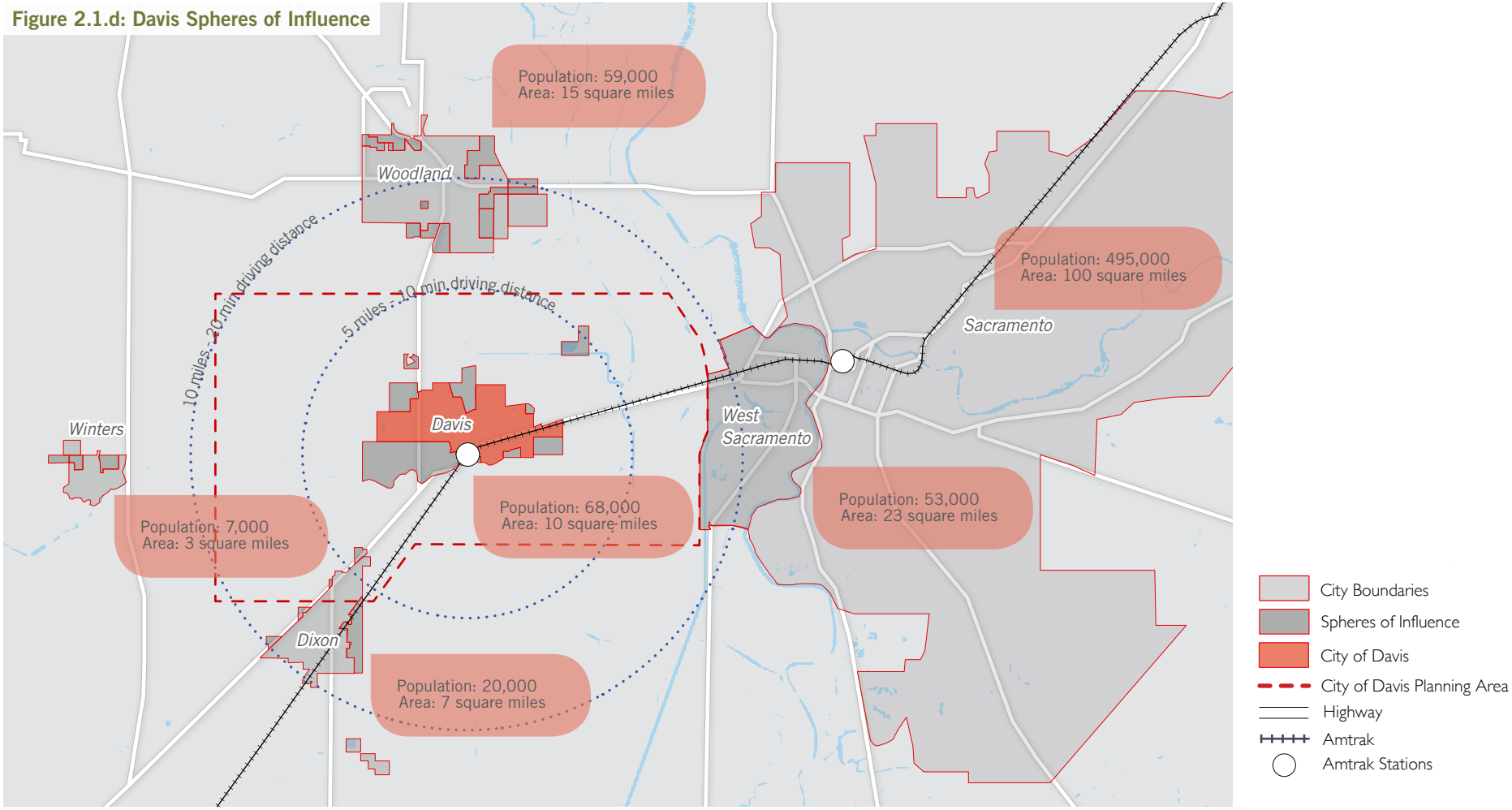


Davis, 2017

SPHERES OF INFLUENCE

Davis has a Planning Area of 160 square miles that extends to adjacent jurisdictions, as shown in the map below. It is also located near Sacramento that, as the state capital and a major employment center, extends considerable economic and political influence over the entire region. Downtown Davis, along with UC Davis, forms an important employment center for the region. Improvements to the Downtown can provide a greater range and diversity of commercial and service options and could create a greater draw for both Davis residents as well as visitors from the surrounding area. Thus, it will be important to consider the potential impact of changes to Downtown Davis on settlements within a reasonable commuting distance, in terms of economy, policy, and employment.

Figure 2.1.d: Davis Spheres of Influence



2.2 Study Area Overview

BACKGROUND

Located in the heart of the City of Davis, the study area for the Downtown Davis Specific Plan covers approximately a 38-block area of approximately 132 acres, bounded on the south by First Street, on the north by Fifth Street, on the west by A Street and on the east by the Southern Pacific Railroad tracks east of G Street. The current boundary includes a few commercial blocks along G Street between Fifth and Eighth Streets. As the Specific Plan study progresses, this boundary may change.

The current planning documents refer to this area as the 'Core Area', and within it the 'Downtown Core' is the area bounded by First and Third Streets and D Street and the railroad tracks. The 'Downtown Core' contains the highest concentration of retail uses within the Core Area.

Downtown Davis offers a diverse mix of shops, cafes and historic buildings. With a compact street grid and narrow tree-lined streets, Downtown Davis is walkable and bike-friendly. The area remains more active than the rest of Davis mainly because of the large student population from the neighboring UC Davis campus (which has an enrollment of over 30,000 students). However, not many people live in Downtown at present and the majority of housing within Davis located in the residential neighborhoods outside the Downtown area.

1 *UC Davis, adjacent to downtown, has influenced Davis' growth and unique identity*

2 *The historic Davis Train Depot at Second and G Streets is one of the main pedestrian entrances to Downtown*

3 *Central Park is the primary community space in Downtown for both residents and visitors*

4 *Old City Hall (above) and*

5 *Davis Community Church (bottom right): Historic and civic resources at the heart of Downtown provide points of interest*

Figure 2.2.a: Downtown Davis Plan Area

Residential neighborhoods such as Old North adjacent to Downtown have buildings of historic value.

Key

- Plan Area Boundary
- Amtrak
- Street Network
- Landmarks

0' 100' 1/8 mile 1/4 mile

2.3 Urban Structure

ACCESS AND GATEWAYS

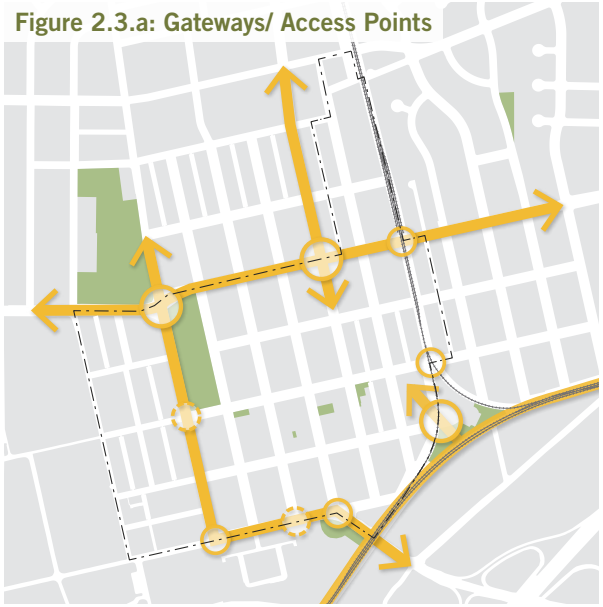
Main vehicular access to Downtown Davis is from Fifth Street in the east-west direction, F and B Streets from the north and Richards Boulevard from the south. The City has designated certain streets with 'Gateway' status, as illustrated in Figure 2.3.a, including Fifth Street, B Street and the historic grade-separated Richards Boulevard tunnel beneath the Railroad tracks that provides access from I-80 and South Davis. The main transit gateway to Davis is the historic Davis Train Depot at the intersection of Second and G Streets. The two main bicycle gateways are at the intersection of Third and B Streets from the west, and south of First Street, connecting to the Putah Creek-Arboretum Trail leading to UC Davis and South Davis.

CIRCULATION

The Union Pacific railroad tracks create significant barriers to connectivity from the south and east, and the UC Davis campus restricts circulation to the west. Of the seven east-west streets in the study area (First through Seventh), only Third, Fourth, and Fifth Streets allow through-traffic to the east, and only Russell Blvd./ Fifth Street continues to the west. The eight north-south streets include A through G Streets and University Avenue. Of these, only A, B, D, and F Streets extend past Eighth Street to the north, and only Richards Boulevard connects to the south. The arterial network supporting the bulk of vehicular and transit circulation include B, F, Third and Fifth Streets and Richards Boulevard. Existing barriers to through-traffic result in congestion and conflicts between various traffic modes at a few locations on a regular basis as illustrated in Figure 2.3.b. Further discussion on the identified conflict points can be found in Chapter 4, Transportation. Planned improvements include reconfiguring the I-80-Richards Boulevard interchange to ease mobility. Other corridor plans under consideration are for E Street - First to Third Streets and First and B Streets - Richards Boulevard to Russell Boulevard.

Truck routes in the Downtown area include Russell Boulevard (State Route 113 to B Street), Fifth Street (B to L Streets), First Street (B Street to Richards Boulevard), Richards Boulevard (First Street to I-80) and B Street (First Street to Fifth Street).

Figure 2.3.a: Gateways/ Access Points



'Gateway' streets and primary access points

Figure 2.3.b: Conflict Points

Arterial network and conflict points

Richards Boulevard tunnel

Figure 2.3.c: Street Hierarchy

Key

- Plan Area Boundary
- Blocks
- Parks and Plazas
- Highways
- Arterials
- Collectors
- Local Roads
- Alleys/Private Roads/ Bike Paths

0' 100' 1/8 mile 1/4 mile

TRANSIT

Over 95% of all Davis residents live within a 1/4 mile (<10 minute walk) of a bus stop. The main Transit Center in Downtown Davis is at the Davis Train Depot, accessed via a single at-grade crossing at the intersection of H and Second Streets. Transit options include local Unitrans buses - the A,E and Z lines on Second and Third Streets; P and Q routes on Fifth Street - that connect popular downtown shops and destinations to UC campus hubs and the park-and-ride lot east of city limits.

Regional connections to Woodland and Sacramento are provided by Yolobus routes 42A and 42B that run on Fifth Street. Davis Community Transit is the primary ADA and paratransit service provider. Davis is also well served by taxi and ride-share services.

BIKE INFRASTRUCTURE

Davis is recognized as the 'Bike Capital of the US', and has been awarded the status of the country's first ever Platinum Level Bicycle Friendly Community. According to the State of the City Report (2017) published by City of Davis staff, Davis has approximately 40,000 bikes in use and 25% of person trips are by bike, among the highest in the country. Davis has 55 miles of bike lanes, 60 miles of shared-use paths and 25 grade-separated crossings at major streets.

Downtown Davis has a well-established bike network with B, F, First, Third and Fifth Streets functioning as the main bike routes. A mix of Class I trails, Class II lanes, and Class III bike routes connect downtown to the University and surrounding neighborhoods. Existing bike infrastructure and bike facilities have been analyzed in detail in the Transportation chapter of this report.

Davis also has a network of designated 'Greenstreets', that are intended to provide safe, convenient and attractive circulation for all modes. In the downtown area, all the major and minor arterials and collector streets fall into this category.

Figure 2.3.d: Transit Network

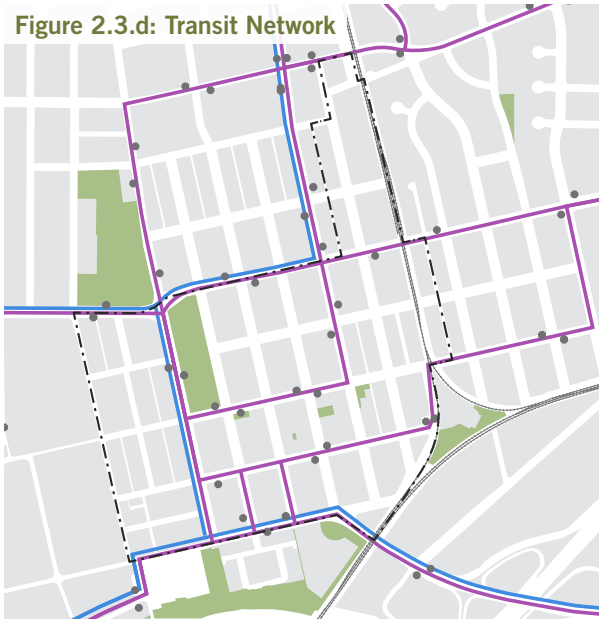
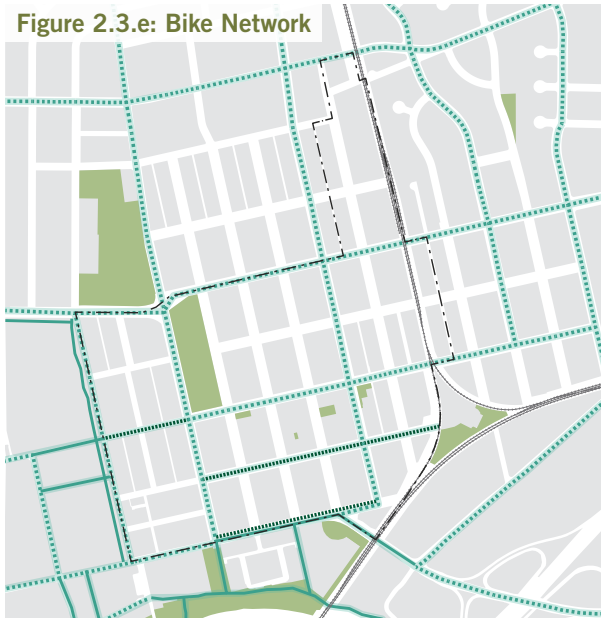
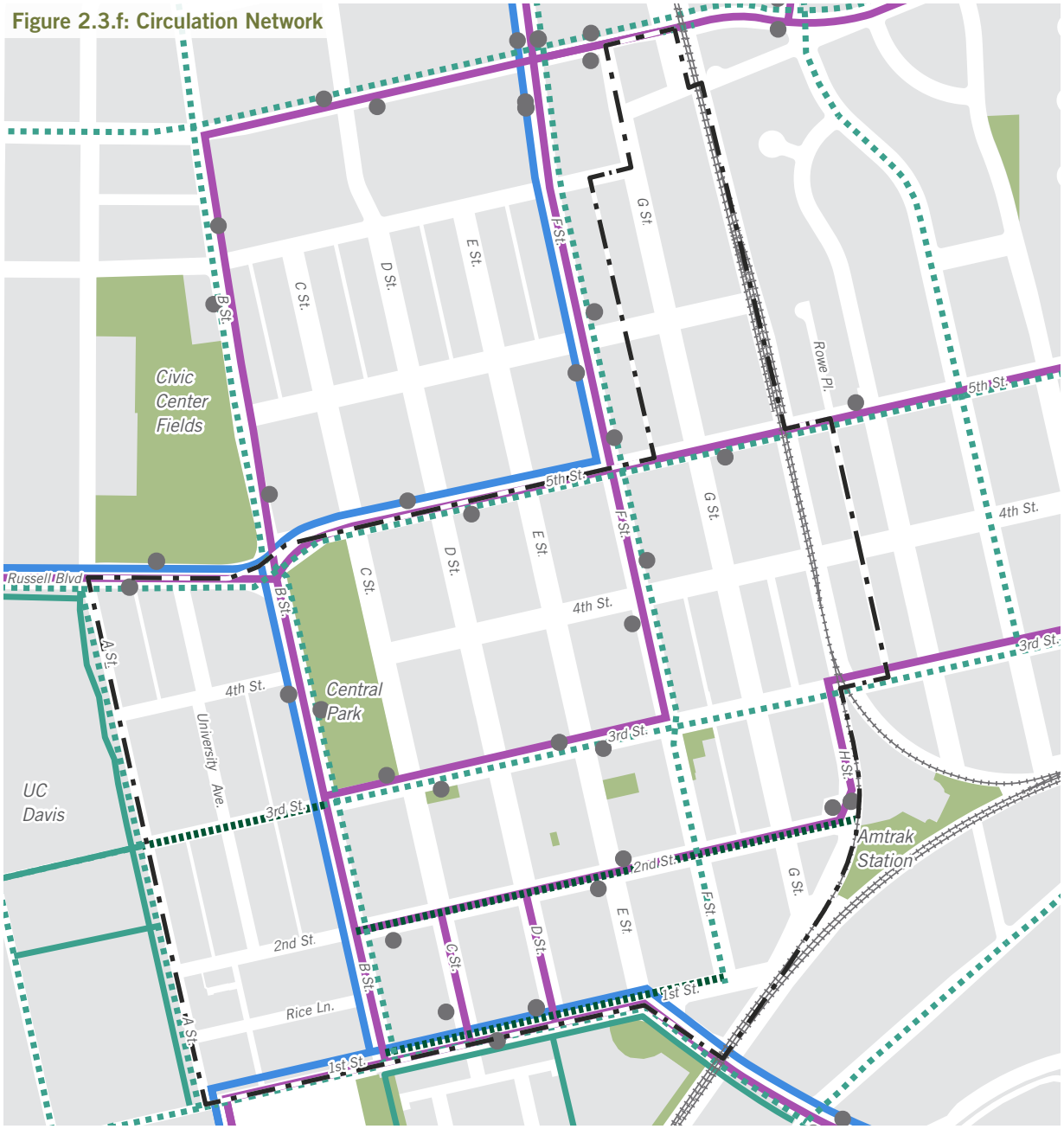


Figure 2.3.e: Bike Network



Downtown has a robust bike infrastructure

Figure 2.3.f: Circulation Network



Key

- Plan Area Boundary
- Amtrak
- Local Transit (Unitrans)
- Regional Transit (Yolobus)
- Bike Network (Class I)
- Bike Network (Class II)
- Bike Network (Class III)
- Bus Stops

0' 100' 1/8 mile 1/4 mile

WALKABILITY AND PUBLIC REALM

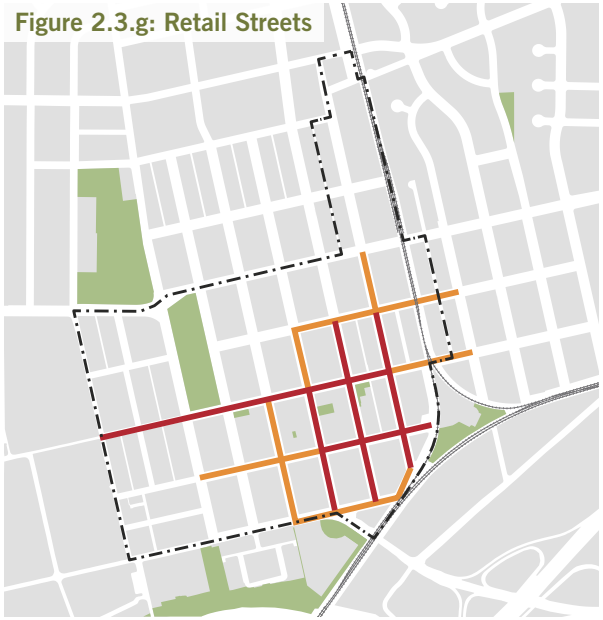
The 'walkability' of a place is determined by the quality of its streets and sidewalks in providing a safe, comfortable and interesting pedestrian experience; diverse destinations to walk to, and visually appealing buildings and facades. In this regard, Davis has all the right components and tremendous potential to become a truly walkable destination. The conditions impacting walking and biking are closely linked, and both work together to foster an active lifestyle for the community.

Downtown Davis is the shopping and entertainment core for the city, enjoying regular patronage by UC Davis students and faculty as well as local residents and commuters for its variety of small shops, cafes, eateries, art galleries and services. Below, Figure 2.3.g identifies primary and secondary retail streets within downtown. Figure 2.3.h illustrates an analysis of existing sidewalk conditions, discussed in detail in Chapter 4, Transportation, of this report. Overall, the area has a highly walkable environment, with F, G, and Third Streets having the highest volumes of pedestrian traffic during lunch and evening hours. Similarly, the streets around Central Park see high pedestrian activity during the weekly Farmers Market and summer events.

The Downtown blocks reflect the original town plat grid, with the average block size being 240 feet by 400 feet, and roadway widths ranging from 50 feet to 80 feet. These dimensions fall well within the accepted range seen to encourage walking and biking for everyday activities. While most Downtown streets have active frontages with a variety of uses, there are some missing gaps and abrupt transitions in use.

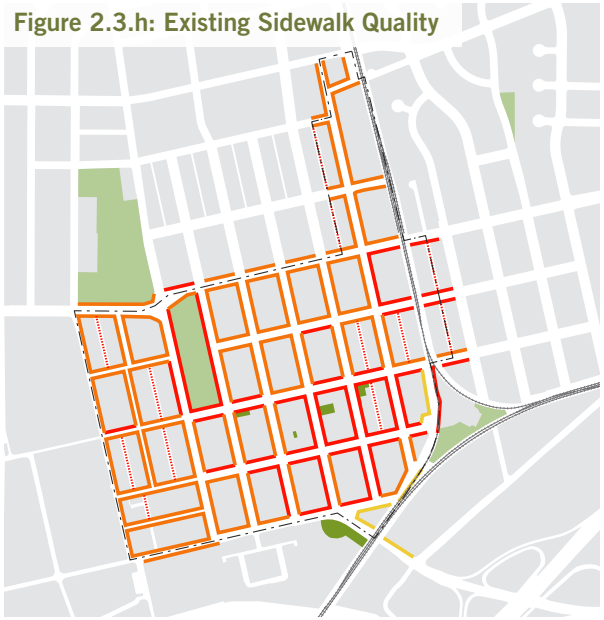
Similarly, while several streets within Downtown have traffic-calming measures and improvements to sidewalks and street furniture, the quality of the pedestrian realm is not consistent. In some areas, as shown in the photos on the facing page, the sidewalks abut blank facades, inconsistent sidewalk widths and barriers to continuous pedestrian movement.

Figure 2.3.g: Retail Streets



Primary Retail Street *Secondary Retail Street*

Figure 2.3.h: Existing Sidewalk Quality



Low Quality *Medium Quality* *High Quality*

'Activated Alleys', a recent City initiative to to extend the pedestrian realm throughout downtown

Downtown Davis has a variety of sidewalk edge conditions

Frontages are not consistent in their quality and often do not contribute to the public realm along the street.

Pedestrian safety and traffic-calming measures have been implemented on many Downtown streets

DESTINATIONS

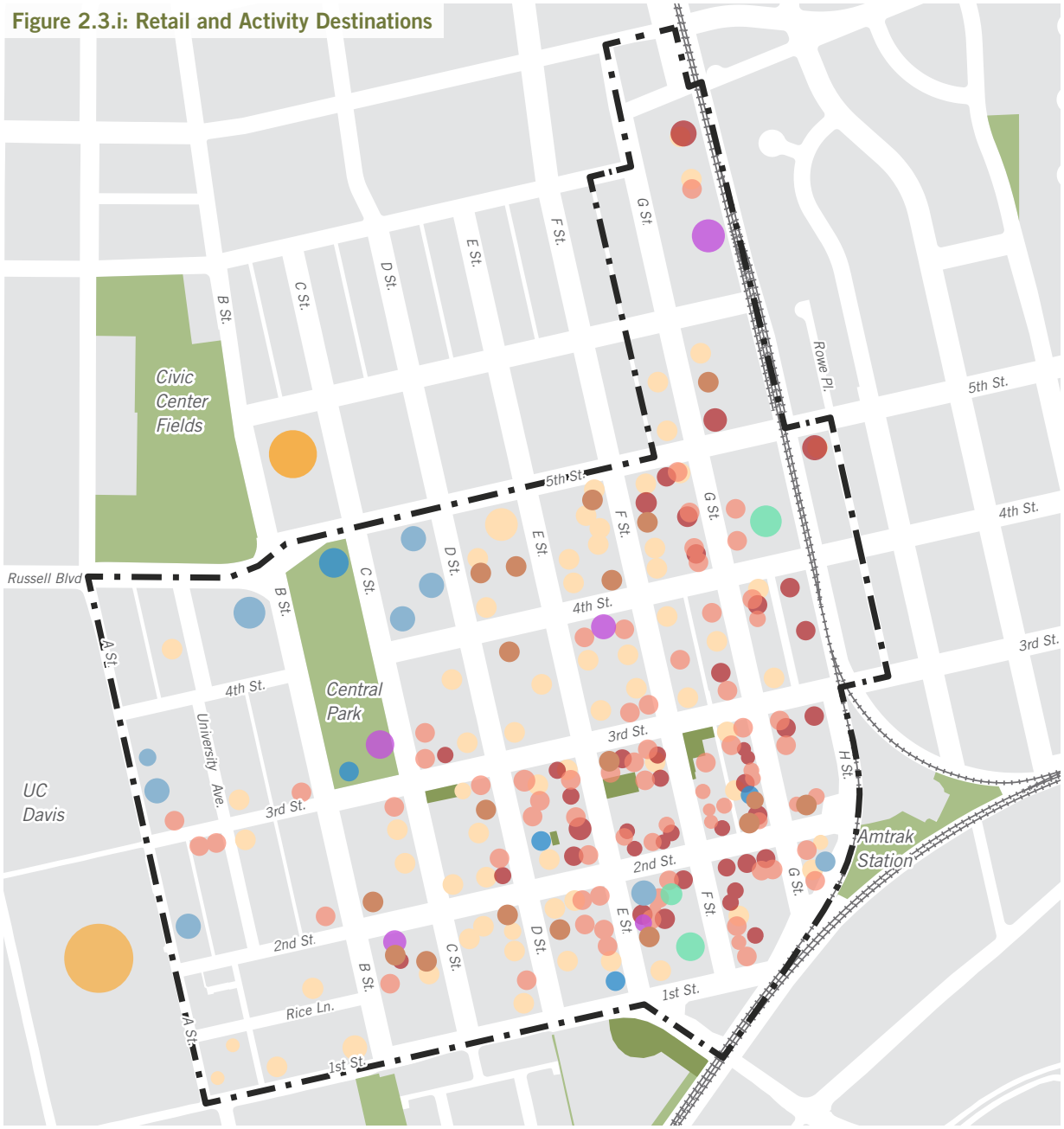
Downtown Davis offers a variety of destinations for different users, as indicated on Figure 2.3.i on the facing page. Popular destinations for visitors include the Farmer's Market featuring locally grown produce as well as the US Bicycling Hall of Fame and the Hattie Weber Museum of Davis, all located within Central Park. The nearby Arboretum in UC Davis is a major attraction. UC Davis has the Manetti Shrem Museum of Art, and other museums related to campus academics and arts including the Mondavi Center for the Performing Arts, and Pitzer Recital Hall.

Retail uses in Downtown include a few chain stores but predominantly small locally-owned shops and businesses that contribute to Davis' eclectic culture. The Downtown area also has a large number of cafes and eateries, many with outdoor seating to take advantage of Davis' mild weather. For daily needs of the community, Downtown Davis has a large number of banks and services and a grocery store, the Davis Co-op.

Popular entertainment venues include movie theaters such as the Varsity Theater and the two Regal Cinemas, community event spaces such as the Odd Fellows Lodge, and small music venues hosted by restaurants such as Sophia's Thai Kitchen and Delta of Venus. Cultural facilities within the Downtown include art galleries such as John Natsoulas Gallery and the Pence Gallery.

Variety of destinations and services in Downtown Davis

Figure 2.3.i: Retail and Activity Destinations



Key

- Plan Area Boundary
- Blocks
- Parks and Plazas
- Groceries
- Services
- Retail Stores
- Restaurants/Cafes
- Theaters
- Professional Offices
- Religious Centers/Organizations
- Schools/Universities

0' 100' 1/8 mile 1/4 mile

ACTIVITIES AND EVENTS

Downtown Davis is the central place in Davis for community gathering and events. A range of regular and seasonal events within, and adjacent to, the Downtown attract residents and visitors from the city and surrounding region. Popular local events include:

Farmers' Market. Famous for its locally-grown produce, the Davis Farmer's Market is held twice a week on Wednesdays and Saturdays, all year long. In the summer months from March through October, this includes an afternoon 'Picnic in the Park' event featuring live music, food festivals and family entertainment.

Friday Art About. A monthly self-guided art walk that includes art installations and receptions at galleries, art co-ops and businesses in the Downtown area, this free event offers activities, live music and free refreshments and opportunities to meet featured artists.

Fall for the Arts. A month-long celebration in October highlighting artists in the streets, galleries, studios, and theaters throughout Downtown.

Picnic Day Parade. The annual UC Davis Open House featuring a range of free activities and entertainment is a popular event for the Greater Davis area.

The Davis Criterium. On the 4th of July every year, this 'bicycling equivalent of the Indy 500' is held on Downtown streets transformed into a closed circuit track.

The Whole Earth Festival. A three-day 'eco-friendly music, dance, arts, crafts and education festival' held in Spring during Mother's Day weekend, organized by ACUSD, a UC Davis students' association. While not hosted within the Plan Area, its adjacent location provides a number of visitors into the Downtown.

Screeverfest. A sidewalk chalk art festival held in Downtown every October.

Summer Sidewalk Sale. An annual event in which participating Downtown businesses display their merchandise on the sidewalks and offer discounts.

Tours. Walking tours offered by the nearby UC Arboretum are popular with visitors. There are also several Historic Walking Tours of Downtown.

Davis Criterium

Farmers' Market at Central Park

Screeverfest: a sidewalk chalk art festival

'Picnic in the Park' held every summer

PUBLIC ART

The City of Davis Arts and Cultural Affairs Program serves the entire Davis community and includes community based arts projects, cultural opportunities and education initiatives. This helps support artists and organizations, and manages the public art collection. As a result of these efforts, Downtown has numerous examples of public art, murals and artistic street furniture. City-led initiatives include the Gateway Arch for the Richards Boulevard tunnel and sculptures and landscaping as part of the Centennial Plaza project at the Davis Train Depot.

Downtown Davis has several notable murals as well as interesting street furniture

ArtAbout: a popular monthly art walk

Examples of public art in Downtown Davis include sculptures and art installations

2.4 Public Space and Civic Uses

PUBLIC SPACES

The only park in the Downtown Davis study area is the five-acre Central Park, located in its north-west. This is the key place in Davis for community gathering and the site of the bi-weekly Farmer's Market and other seasonal outdoor activities and events. With a play area, tot lot, a picnic area, a carousel, the US Bicycling Hall of Fame and the Hattie-Weber Museum, this is the recreational heart of the city. A block north of the Central Park, adjacent to the study area is Civic Center Fields, a 3.6 acre 'special use park' which provides a range of recreational amenities. The UC Davis Arboretum, a popular tourist destination, is within a 30 minute walk from Downtown.

Downtown has several smaller open spaces, including some parking lots that have been converted to outdoor plazas, such as the E Street Plaza. Many downtown cafes and eateries also have outdoor areas with seating. A few alleys have been successfully transformed into pedestrian through-block connections. As part of Davis' Centennial Celebration, the south-east corner of Second and G Streets will be redesigned as 'Centennial Plaza', improving the transit arrival experience.

The range, quality, and number of open spaces is an area where improvement is needed in order to support a wider range of outdoor activities. While Central Park is a popular community space, it is located at the edge of downtown and does not serve as a central gathering space. The few public spaces within the heart of downtown do not currently support a wide range of activities such as open-air markets, outdoor dining, children's activities and play areas.

LANDMARK TREES

Among the most memorable features of Davis are its tree-lined streets. City staff have surveyed and categorized approximately 80 trees as 'Landmark Trees'. The Core Area Specific Plan also has a list of 'Trees worth saving' in Downtown that are valuable but do not meet all the criteria of Landmark Trees.

Many streets have outdoor seating areas

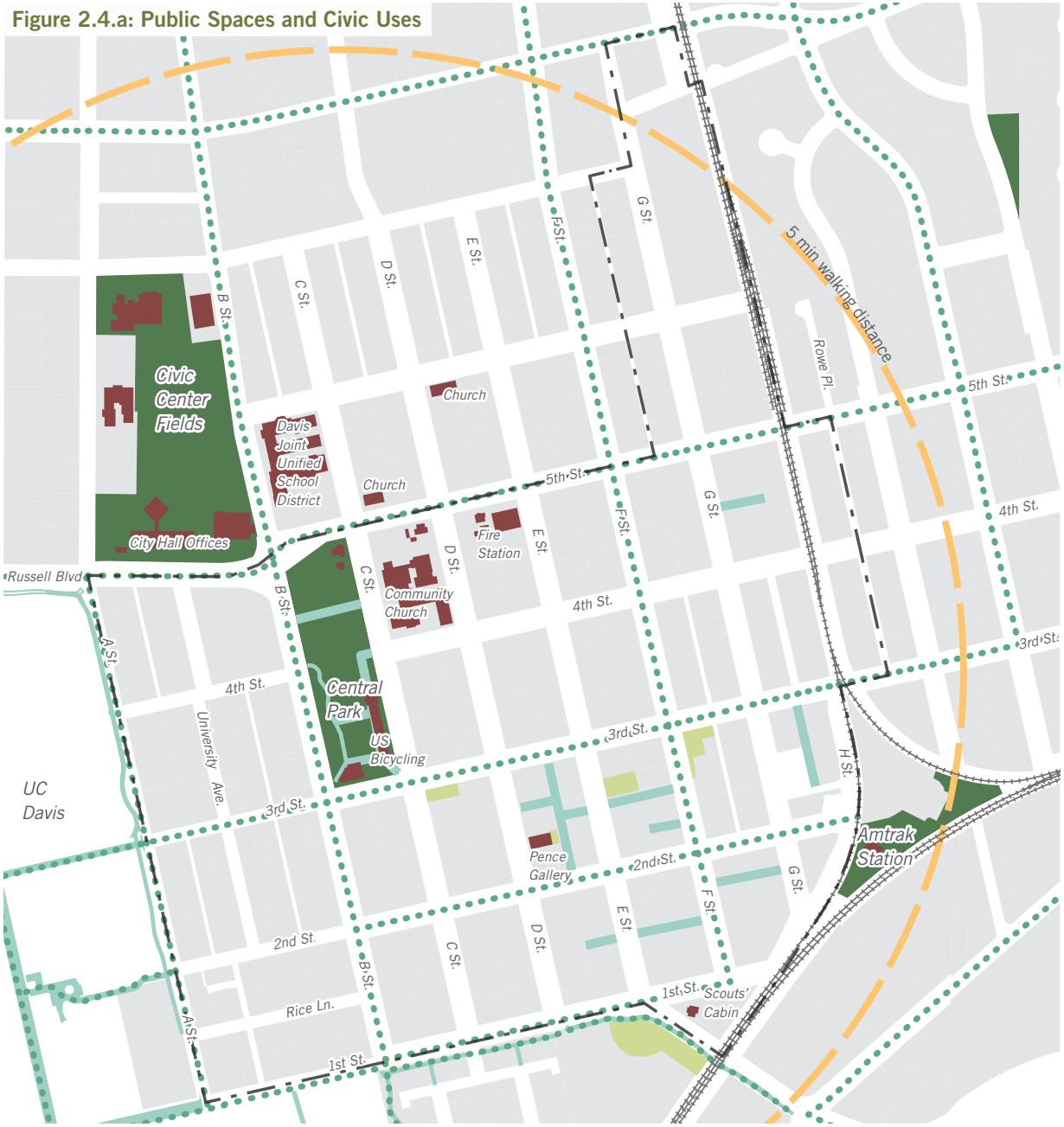
Tot-lot and play areas at Central Park

Several parking lots have been converted to plazas

Alleys as pedestrian connections

Central Park

Figure 2.4.a: Public Spaces and Civic Uses



Key

- Plan Area Boundary
- Blocks
- Community Serving Parks
- Small-scale Parks / Plazas
- Natural Open Space
- Civic Buildings
- Pedestrian Paths
- Bike Facilities

0' 100' 1/8 mile 1/4 mile

2.5 Urban Form

OVERVIEW

The existing built environment of the Downtown is a product of a number of planning efforts, most notably, the 1961 plan for Downtown Davis. As was common practice at the time, the plan envisioned a commercial downtown with a series of parking lots at the center of blocks, and a pedestrian parade along 3rd Street. One result of this plan was the demolition of many historic houses and main street buildings at the center of the Downtown, as seen in the fragmented blocks between 4th and 1st Street and D and H Street (see Figure 2.5.d).

BUILT STATUS

A recent study conducted by City of Davis staff, referenced in the State of the City report (2017), identifies parcels in Downtown that have been recently constructed, have outstanding development proposals, are existing historical resources, or have buildings eligible for historical resource status (see Figure 2.5.a). The status of these parcels will be helpful in determining Opportunity Sites as part of the Downtown Davis Specific Plan effort.

OWNERSHIP

The City is the largest property owner in Downtown, owning 21 parcels, though many of the parcels are parks, plazas and surface parking lots, as shown in Figure 2.5.b. This map also shows the next top fifteen major property ownership parcels, most of which are private entities. This list includes commercial establishments, Davis Community Church, Davis Enterprise, and UC Davis.

HISTORICAL RESOURCES

Davis has about 40 designated historical resources, many located in Downtown Davis and surrounding neighborhoods. These are included in the Davis Register of Historic Places, and the California Register of Historic Resources. Four of these are also listed with the National Register of Historic Places: the Davis Subway; Southern Pacific Station-Davis Junction (Davis Train Depot); Dresbach-Hunt-Boyer Mansion and Tufts Mansion. Historical Resources are categorized into Landmarks and Merit Resources. This topic, including discussion of the conservation overlay district, has been covered in detail in Chapter 7, Historical Resources.

Figure 2.5.a: Parcel Status

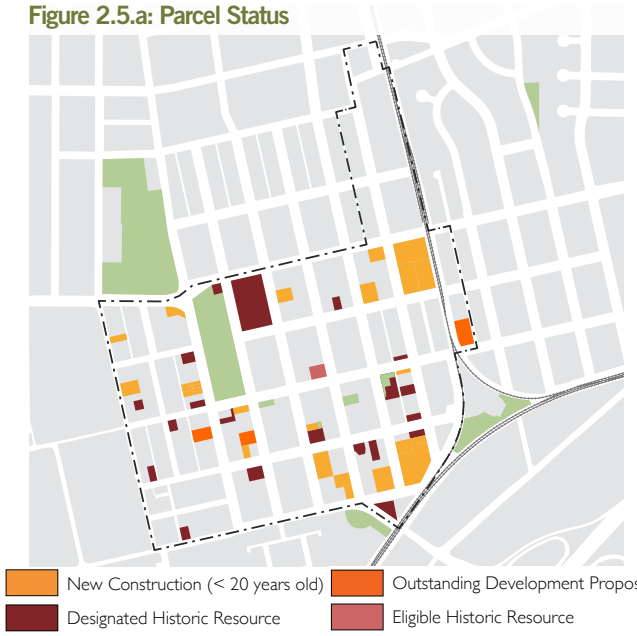


Figure 2.5.b: Property Ownership

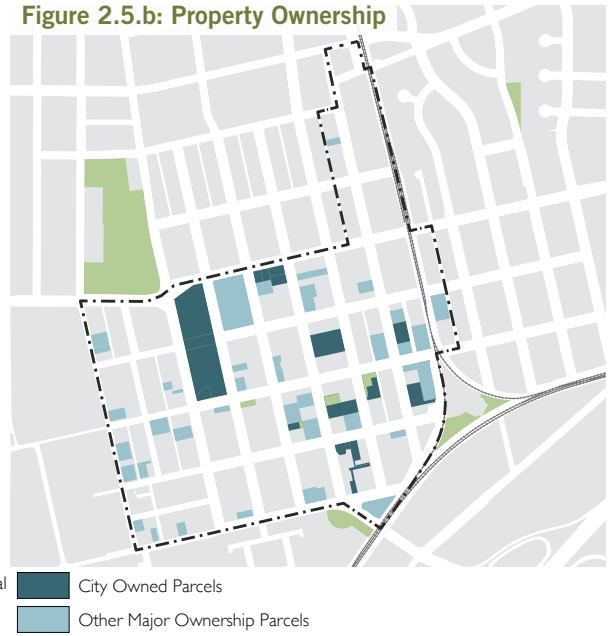


Figure 2.5.c: Historical Resources

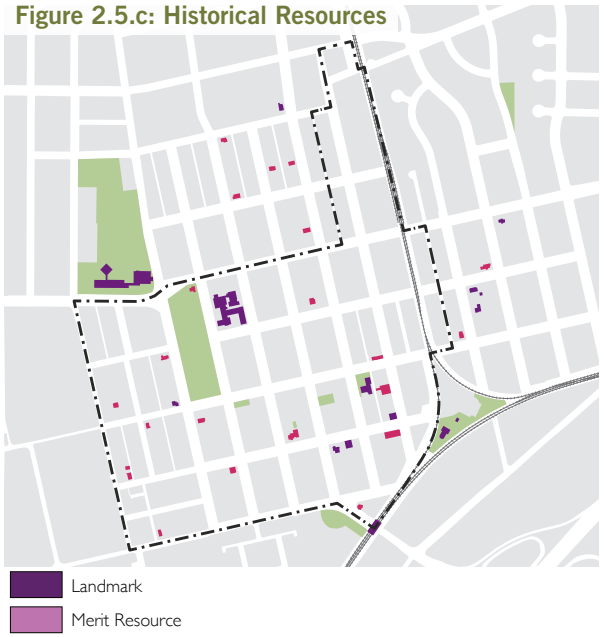


Figure 2.5.d: Figure Ground (Building Footprints)

Two-thirds of buildings within the Downtown were demolished between 1945 and 2000. The demolished buildings are shown in red in the map above.

Source: Davis: Transformations, Lofland.

Key

- Plan Area Boundary
- Blocks

0' 100' 1/8 mile 1/4 mile

EXISTING AVERAGE BUILDING HEIGHTS

A survey by City staff catalogued average building heights in Downtown, which was included in the State of the City report (2017) and was later verified by the consultant team. From this study (see Figure 2.5.e), the team found over 50 percent of the structures are one-story, 33 percent are two-story, and only 7 percent are three-stories or above. Thus downtown has high potential for vertical development.

Key

- Plan Area Boundary
- Blocks
- 1 floor (50%)
- 2 floors (33%)
- 3 floors (6%)
- 4 floors (<1%)

0' 100' 1/8 mile 1/4 mile

Figure 2.5.e: Building Heights

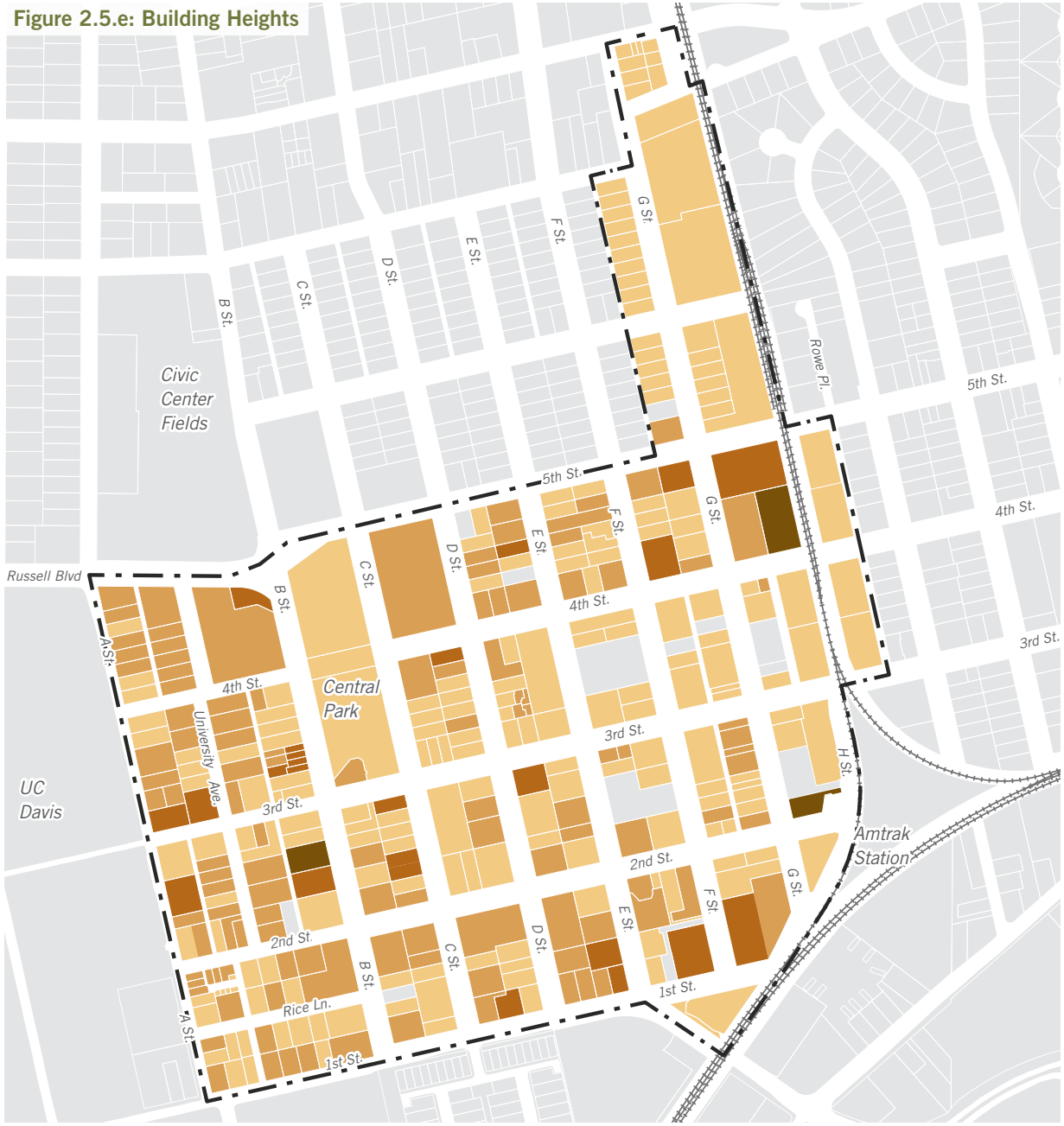


Figure 2.5.f: Lot Widths

EXISTING LOT WIDTHS

Figure 2.5.f shows a preliminary analysis of lot widths in Downtown based on parcel information obtained from the City's existing database. Please note that some of this information may be out of date. From this analysis, it was found that a majority of the lots are between 50 feet and 75 feet wide, with about one-third of the lots being larger than 75 feet wide. The smaller parcels are found in the residential neighborhoods. The larger parcels offer an opportunity for both larger-scale infill as well as the creation of public space within the Downtown.

Key

- Plan Area Boundary
- Blocks
- 5-39 ft (9%)
- 40-49 ft (15%)
- 50-59 ft (29%)
- 60-79 ft (17%)
- 80-99 ft (10%)
- >100 ft (20%)

0' 100' 1/8 mile 1/4 mile

EXISTING BUILDING USES

A preliminary survey by City staff a few years ago catalogued Downtown buildings by existing land use. The existing uses have been verified by the consultant team, however, there may be some inconsistencies based on unavailability of recent data.

Figure 2.5.g: Existing Building Uses

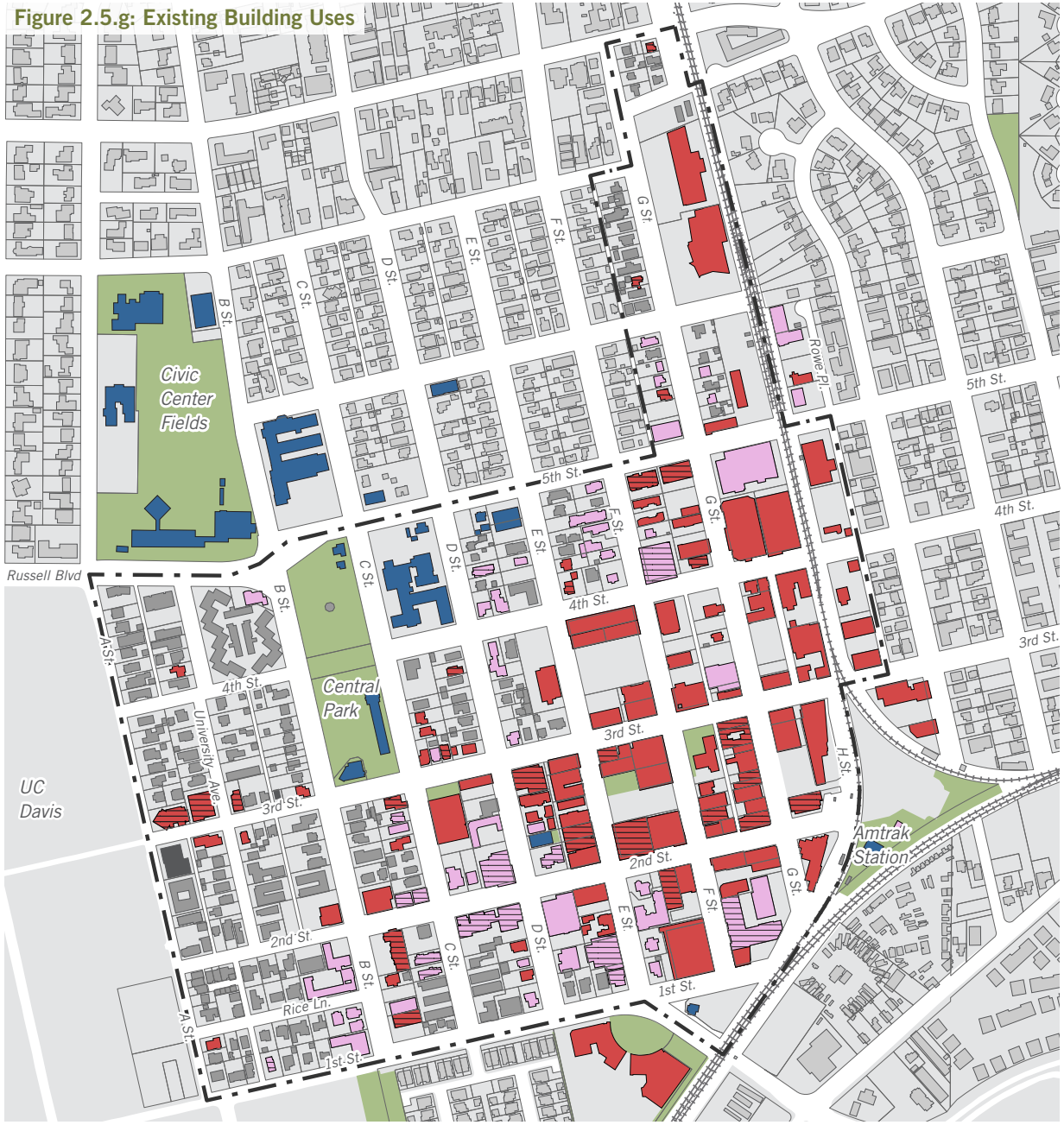


Figure 2.5.h: Existing Frontage Conditions

EXISTING FRONTAGES

This map illustrates the results of a walking survey conducted by the consultant team to qualitatively assess existing building frontage conditions in Downtown. It should be noted that this is a subjective assessment. For this study, an active frontage is being defined as a public right of way that is fronted by a building.

The frontages in the 'best condition' were those that actively contributed to the quality of the public realm. Buildings were places at or near the sidewalk, entrances faced the sidewalk, and the facade included appropriately scaled fenestration. Frontages considered to be in 'bad condition' were those where the buildings were set back from the sidewalk, did not include fenestrations, and often included parking lots at the front of the lot. 'Good condition' frontages included some attributes of the previously described conditions.

Key

- Plan Area Boundary
- Blocks
- Parks and Plazas
- Active Frontage - Best condition
- Active Frontage - Good condition
- Active Frontage - Bad condition

0' 100' 1/8 mile 1/4 mile

EXISTING BUILDING TYPES IN DOWNTOWN DAVIS

In the Consultant team's preliminary survey of the Downtown area, a number of building types were catalogued. A mix of building types is necessary to support various types and scales of activities within and adjacent to Downtown. New building types may also be introduced and assessed for applicability during the public workshop.

Main Street Mixed-Use Building

Detached House

Apartment Building

Townhouse

Duplex

Main Street Mixed-Use Building

House with a shopfront addition

WHAT IS A BUILDING TYPE?

A structure defined by its combination of configuration, disposition and function. The names of the building types are not intended to limit uses within a building type, but instead describe a form. For example, a detached house may support a residential use or it may also support non-residential uses within it, such as a restaurant or office.

Stoop

Projecting Porch

EXISTING FRONTAGE TYPES IN DOWNTOWN DAVIS

In the Consultant team's preliminary survey a diverse set of frontage types were catalogued as seen on this page. The frontages varied in their form and quality. Additional frontage types may be introduced and assessed for applicability during the public workshop.

Gallery

Engaged Porch

Front Yard

WHAT IS A FRONTAGE TYPE?

Frontages are the components of a building that provide an important transition and interface between the public realm (street and sidewalk) and the private realm (yard or building).

Shopfront

Stoop and Dooryard

2.6 Regulatory Framework: Background and Documents

PLANNING HISTORY

Source: State of the City report, 2017

Davis adopted zoning in 1927. Its first General Plan was adopted in 1958, with an objective to increase its population from 7,700 persons in 1958 to a maximum of 35,000 by 1980. The intent behind this was to maintain the quality of life and amenities that Davis' residents valued, to protect agricultural land, and to avoid large-scale 'big-box' retail to dominate downtown businesses. Updates were made to the General Plan in 1964, 1969, 1977, 1987 and 2001 but throughout, "orderly development based on a sound economic base" has been the guiding theme.

Other relevant specific plans include the South Davis Specific Plan adopted in 1987 (subsequently amended), the East Davis Specific Plan in 1987 (since repealed) and the Gateway/ Olive Drive Specific Plan adopted in 1996.

In 1986, Davis voters approved an advisory initiative to grow as slowly as legally possible. Several other growth-related measures since then have led to many development projects not being approved, including the Mace Ranch project (1980s), Wildhorse Ranch (1995 & 2009), Covell Village (2005), and the Nishi development (2016). In 2008, Housing growth resolution #08-019 established an annual 1% growth cap (excluding affordable housing, accessory dwelling units and units in mixed-use buildings). This resolution, amended in 2011, targets percentage mixes of housing types. Measure J, passed in 2000 and renewed as Measure R in 2010, requires voter approval for converting agricultural land for urban use.

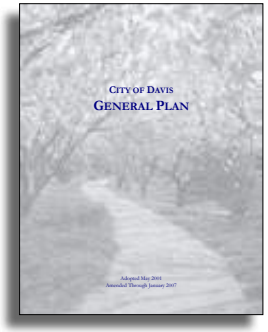
OVERVIEW OF KEY DOCUMENTS

Davis has a large number of regulatory and policy documents and guidelines that have been created to address community concerns, create a 'sense of place' and achieve downtown vitality without losing Davis' small-town feel.

Key documents were reviewed to understand their purpose, areas of focus, and areas of overlap. In the following pages, each document has been summarized in brief to provide a background of the existing regulatory situation in Davis.

DAVIS GENERAL PLAN

Adopted in 2001 | Amended 2007, Partially amended 2015



Purpose. The Davis General Plan provides long-term, comprehensive policy to guide decisions that determine the physical development of Davis in consonance with the community's vision. The General Plan was valid till 2010, and is pending an update, to be carried out with community participation as required by state law. The General Plan contains the seven elements mandated by state law (Land Use, Housing, Circulation, Open Space, Conservation, Safety and Noise) categorized into ten sections:

- Section I: Introduction
- Section II: Planning Context
- Section III: Vision
- Sections IV: Community Form
- Section V: Community Facilities and Services
- Section VI: Community Resource Conservation
- Section VII: Community Safety
- Section VIII: Implementation
- Section IX: Glossary
- Section X: Appendices

1927. Davis adopts first zoning code.

1958. Davis adopts first General Plan.

1964. General Plan Update.

1967. Bikeway System was established.

1969. General Plan Update.

1974. General Plan Update.

1975. Building Code Sections enacted (Title 24).

1977. General Plan Update.

1986. Davis approves 1% growth restriction measures.

1987. General Plan Update. South & East Davis Specific Plans adopted.

1996. Core Area Specific Plan and Gateway/ Olive Drive Specific Plan adopted.

Sections III - VII set goals, policies, standards and actions for 22 separate topics; and Section VIII indicates how to implement them. The Planning Area for the General Plan consists of approximately. 160 sq miles, and 14 geographic sub-areas, one of which is the Core Area.

The General Plan community vision statements include:

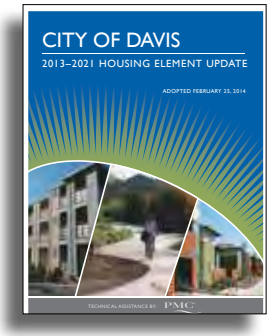
- Protect Davis' quality of life
- Maintain Davis' small town character
- Encourage a diverse community
- Promote and support arts and culture
- Protection and restoration of natural resources
- Create distinct neighborhoods; diverse housing options
- Broad range of services and businesses; economic vitality
- Neighborhood-oriented transportation; alternate modes
- Parks and Open Space program to meet community needs
- Protect agricultural land
- Strengthen the synergistic partnership with UC Davis

Thus, the General Plan policies are framed on the basis that Davis should remain a small, University-oriented town surrounded by farmland, greenbelt, and natural habitat. The vision for Downtown is for it to remain a retail, cultural, and employment center for the entire community; designed at a pedestrian scale and supporting alternate transportation.

Relevance. The General Plan is a regulatory document and even though it does need to be updated, it will be a helpful reference in framing the Downtown Davis Specific Plan.

HOUSING ELEMENT

Adopted 2014 | Valid for period 2013 - 2021

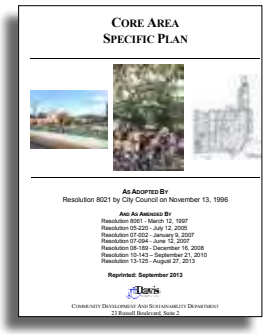


Purpose. The Davis Housing Element is a state-law mandated component of the General Plan. It is a regulatory mechanism for assessing existing housing stock and determining policy to meet future housing needs; typically for eight-year periods. The Davis Housing Element is a comprehensive document and its sections include a Review of the Previous Housing Element, Housing Needs Assessment, Site Inventory and Local Resources, Constraints to Housing Production, Housing Goals, Policies, Standards and Actions; and an Implementation Program.

Relevance. The Housing Element is a regulatory document and reflects the General Plan's direction for the future growth of Davis, by establishing "policies that promote smart growth, local affordable housing and workforce housing programs, agricultural land mitigation and preservation, energy conservation and reduction, mixed-use and redevelopment incentives, local housing production targets, and the creative use and reuse of city land and resources."

CORE AREA SPECIFIC PLAN

Adopted 1996 | Updated 2016



Purpose. The Core Area Specific Plan (CASP), established in accordance with the California Government Code requirements for Specific Plans (Sections 65450-65457), is intended to systematically execute the community's vision for the Core Area articulated in the city's General Plan by providing a comprehensive set of maps, policies, guidelines and implementation strategies covering topics that affect future development. The CASP policy sections include land use, circulation, streetscape and implementation. Updates include those to reflect intended development for special character areas identified in the Downtown Davis Traditional Residential Neighborhood Design Guidelines (2007).

Relevance. The CASP is comprehensive, defines policy but is not regulatory. The CASP is inconsistent in its degree of specificity about different building and site controls. In cases of discrepancies between the CASP and Core Area Zoning, the more restrictive applies.

2001. DDTRNG adopted.

2001. Davis General Plan adopted.

2007. DDTRNG Update.

2007. Davis General Plan amended.

2008. Housing Growth Resolution.

2010. Measure R Passes.

2010. Davis Climate Action and Adaptation Plan (D-CAAP) adopted.

2011. Housing Growth Resolution.

2014. Beyond Platinum Bicycle Action Plan.

2014. Housing Element Adopted.

2016. Core Area Specific Plan updated.

DOWNTOWN DAVIS TRADITIONAL RESIDENTIAL NEIGHBORHOOD DESIGN GUIDELINES

Adopted 2001

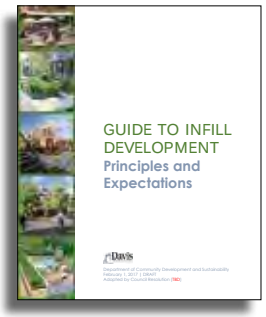
The Davis Downtown and Traditional Residential Neighborhood Design Guidelines (DDTRNDG) were adopted by a resolution and provide the basis for review of architecture and site design proposals.

Purpose. This document provides design guidelines with an objective of "conserving the traditional neighborhood character, providing incentives for reuse of contributing structures, and planning for infill that is compatible with and complementary to the existing neighborhood areas" (Source: State of the City Report, 2017). The design guidelines are organized into several sections: Purpose, Urban Design Framework, Downtown Core Commercial and Mixed-use Properties, Traditional Residential Neighborhoods and Appendices that list procedures and checklists.

Relevance. The document is a valuable resource but the subjectivity of the guidelines limits its efficacy. The document needs to be simplified for easier understanding and the overlaps reduced to avoid confusion. Further, the DDTRNDG provides guidance, but is not explicitly a regulatory document, which limits its implementation potential. The standards are implemented only for development projects within R-2 CD and CD zoning districts, where site plan and architectural approval is required per the DDTRNDG. For a further analysis see Section 2.9.

GUIDE TO INFILL DEVELOPMENT - PRINCIPLES AND EXPECTATIONS

Published in 2017



This draft update to a 2001 document has not been adopted at this time. It may be considered in an update to the DDTRNDG. The City recently acknowledged that the current review process and policies for infill development as complex and not user-friendly; thus, the City prepared this document to help people better understand the process and requirements. This is not, however, a policy document, and can be described as a road map; it is a collection of relevant policy direction and requirements with references to relevant documents.

Principles. The content is organized into nine principles to provide the basis for decision-making and actions: Existing Assets, Sustainable Design, Open Space, Mixed-use, Compactness, Diverse Housing, Balanced Transportation, Community Enhancement and Aesthetics, and Safety.

Expectations. The second half of the document is organized into 16 expectations that describe and consolidate the relevant application and processing requirements/ procedures to guide individuals through the process. This information is helpful in disclosing the type of information or fee required in each step and the reasons.

Relevance. This document provides a comprehensive, recent understanding of the City's expectations for new development and reinvestment. It also provides insight on what policies and regulations needs to be strengthened or eliminated.

HOUSING RESOLUTION 08-019 (2008) & 11-077 (2011)

Purpose. In 2008, Housing/Growth Resolution #08-019 established an annual growth cap of one percent (approximately 260 units) excluding affordable housing, accessory dwelling units, and units in mixed-use buildings. The City Council may grant exemptions for projects providing extraordinary community benefits. Additionally, for multifamily rental developments, units may be "rolled over" and accumulated because of construction and phasing constraints. The consistency of said projects with the growth cap is evaluated each year by the City Council.

In 2011, an amendment to the resolution established targeted percentage housing type mixes in prescribed categories, including single-family units, condominium units, and multifamily rental housing. This amendment identifies sites which need to comply with Housing Element requirements. It also guides the processing of housing proposals through 2013 (based on City Council's direction) or until a General Plan update, whichever is sooner. The City has 382 primary sites zoned for housing. This resolution identifies 36 secondary sites, provides substantial details for each site, and ranks the sites in order of priority. The sites are organized into three categories: 'Green light' (20 additional housing sites), 'Yellow light' (12 sites to be considered only if needed prior to 2013); 'Red light' (4 sites not needed prior to 2013).

Relevance. Because the General Plan Update has not occurred, verification is needed on whether this direction has been incorporated into relevant policy documents.

CORE AREA STRATEGY REPORT & FIVE YEAR PLAN

Adopted 2000

Purpose. This report by the City is an effort to consolidate the vision and policy direction for Downtown to enable more effective and clear implementation. A large number of existing studies and documents formed the basis for this report, including a 1999 Downtown Survey of business owners, property owners, residents, advocacy groups, shoppers helped to inform the priorities in this report.

The report states the community's vision for the Core Area, and expands on this by identifying four "other visions that support a healthy commercial core: Small Town Character, Arts and Culture, Resource Preservation, Broad Range of Services and Businesses". The report identifies the community's priorities for downtown along with 'Benchmarks for Success' to monitor progress on implementing the priorities, organized into four topic areas.

Relevance. The public engagement process and the process for outlining the expectations of the updated vision should include the 'Actions for 2000 and beyond' that have yet to be implemented to determine if they are still relevant and if so, how they might be modified or consolidated.

DOWNTOWN COMMUNITY SURVEY FINAL REPORT (2016)

Purpose. The City Council initiated a 'visioning platform' for downtown to understand the current community perceptions. The five-question survey was conducted over a three-week period at the end of 2016, and was available electronically, at City Hall and the Farmer's Market. A total of 1,467 people filled out the survey (2% of the Davis population).

Relevance. The survey results are important because they are recent, and reflect the community's current thinking and priorities about downtown issues.

DAVIS CLIMATE ACTION AND ADAPTATION PLAN (D-CAAP)

Adopted 2010

Purpose. With an objective to meet Davis' greenhouse gas (GHG) emission reduction targets, the Climate Action and Adaptation Plan (CAAP) has been adopted by City Council and targets eight sectors producing GHG emissions. The Plan specifies short and long term carbon reduction goals, including becoming carbon neutral by 2050. The document includes actions to achieve energy standards for new buildings and similar measures.

Relevance. This important document sets standards which will guide all future development in Davis. The Plan is consistent with, but not yet an element of, the General Plan.

SIGN DESIGN GUIDELINES (2008)

Applicability. These guidelines apply to the Central Commercial (C-C) and Mixed-use (M-U) zones.

Relevance. The content is detailed, with helpful images and captions. The text, however, is confusing because of it mixes advisory language with regulatory language. Because the document is a combination of policy direction and standards, verification is needed (from City staff) on how these guidelines are applied. Ultimately, this document should be consolidated into the city's signage standards in the zoning code and then, design guidelines (if still desired) can be a chapter in the updated Downtown Davis Specific Plan.

BEYOND PLATINUM BICYCLE ACTION PLAN 2020 (2014)

The Beyond Platinum Bicycle Action Plan consolidates all aspects of bicycle planning in a document which clarifies General Plan goals and policies as they relate to bicycles. The Bicycle Action Plan is designed to provide a detailed road map for implementing bike programs that will help Davis achieve its long-term emissions reductions and mode share goals. The plan contains four main goals relating to safe and confident cyclists, an integrated bikeway network, integrating cycling with transit options, and obtaining Diamond-level designation from the League of American Bicyclists.

2.7 Regulatory Framework: Existing Land Use Designations

PERMITTED LAND USES

The map on the facing page shows the designated land uses in the Downtown (Core Area) and corresponding gross land areas. Downtown has the highest concentration of commercial uses in the city. The intensity of development is highest at in the 'Downtown Core' blocks (First to Third and G through D Streets) and reduces in the north and west.

The predominant use, commercial, includes retail, office and mixed-use parcels. According to the State of the City report (SOC 2017), 34% of the city's retail (approximately 750,000 sq ft) is located in the Downtown area. Most of this retail is of a smaller footprint than those seen outside the Downtown. Vacancy rates are low (approximately 3%) and rents are high. Between 2010 and 2015, 96% of retail growth in Davis occurred outside the 'Core Area', with no new retail space being added since 2016. Office uses in the Downtown area are also small-footprint and include suites, incubators and shared workspaces. This poses problems for medium to large businesses from locating within Downtown. According to SOC-2017, since 2010 Davis has added over 75,000 sq ft of office space, but no new office construction has occurred in Downtown.

Within the Downtown (Core Area) boundary, the only residential parcels are in the University Avenue/ Rice Lane neighborhood on its eastern edge, with a density of 3-6 units per gross acre. Downtown is designated a 'green light' (priority) zone for residential infill.

Downtown also has two 'Transitional Districts' and an overlay district:

- The B Street Transitional District aims to create a mixed-use urban village with higher density, compact/ attached residential units, live/work and professional offices/services.
- The First Street Transitional District aims to maintain the scale and character of the University Avenue neighborhood and allows offices, single-family residential and combined residential/office uses.
- The University Avenue Overlay District has a similar aim to maintain the historic character of this neighborhood and allows single-family (attached and detached), duplexes, condominiums and townhouses (max. density 12 units per gross acre).

Figure 2.7.a: Existing Commercial Land Use Designations

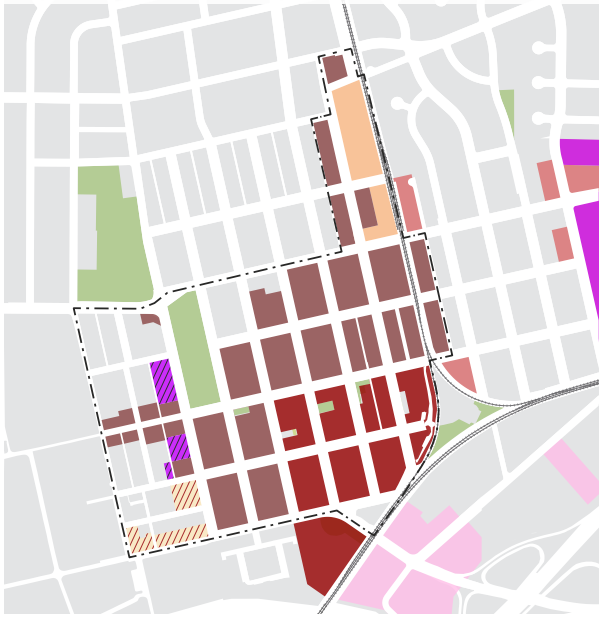


Figure 2.7.b: Existing Residential Land Use Designations

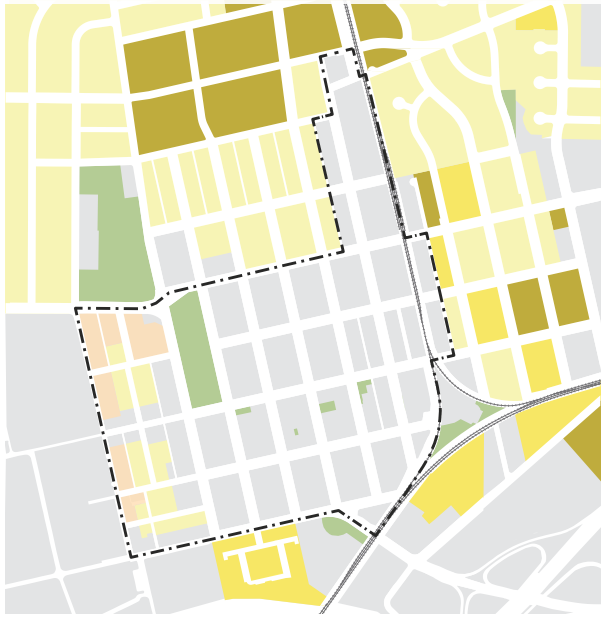


Figure 2.7.c: Existing Civic/Public Land Use Designations

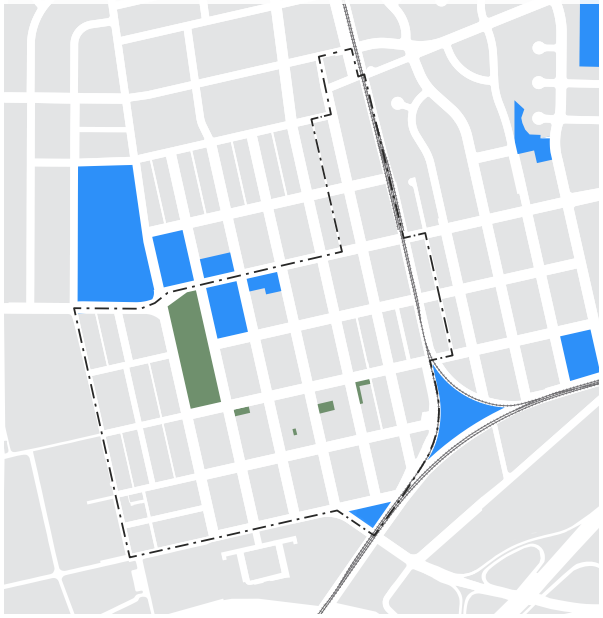
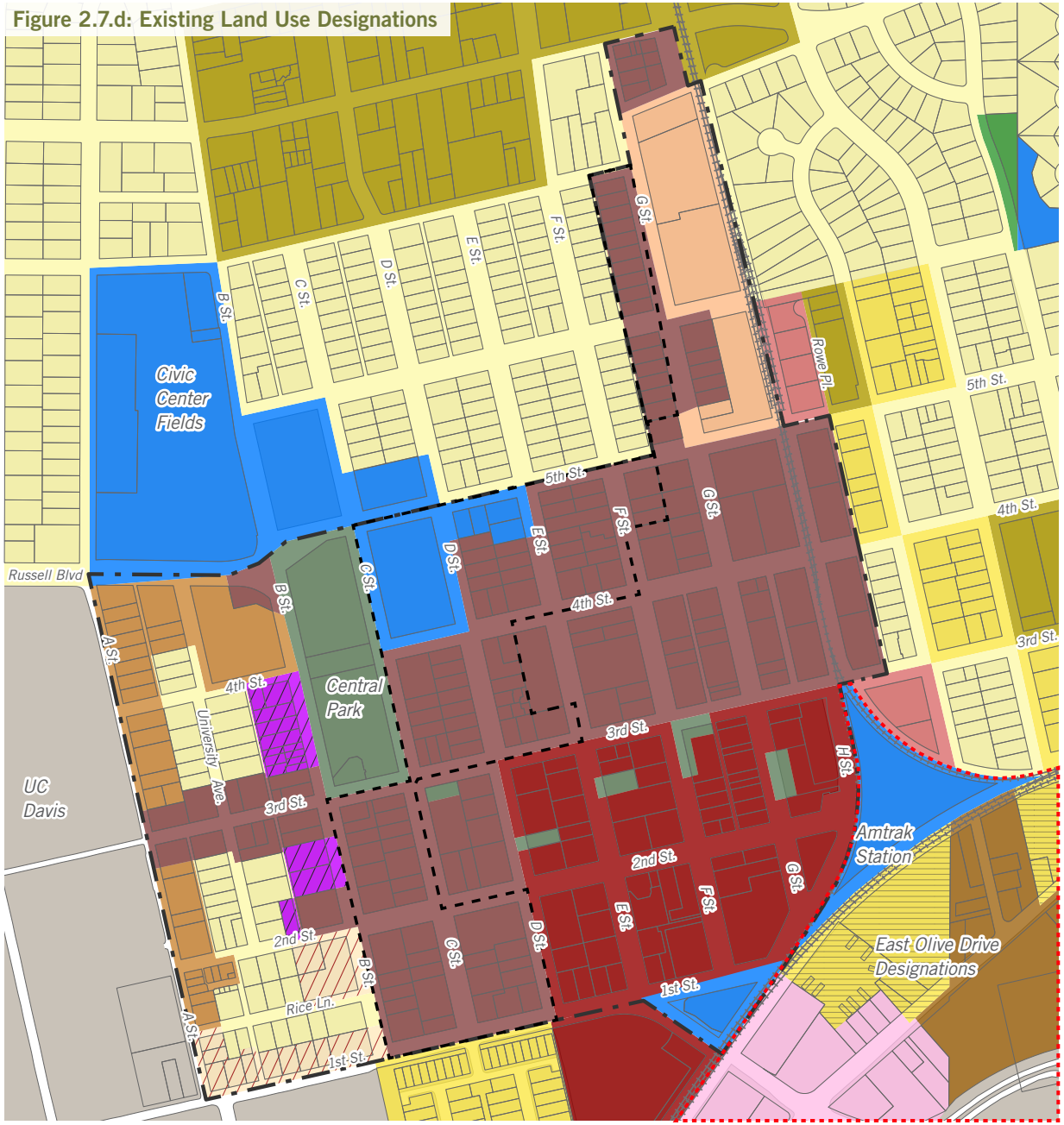


Figure 2.7.d: Existing Land Use Designations



'Core Area' Existing Land Use Designations		
Land Use Designation	**Gross Land Area**	**Ratio**
Retail with Offices	61 ac	46%
Retail Stores	25 ac	20%
Service Commercial	8 ac	6%
Residential Low Density	9 ac	2%
Public/ Semi-Public	5 ac	3%
Parks/ Plazas	8 ac	6%
B Street Trans. District	3 ac	4%
First Street Trans. District	4 ac	6%
University Ave. Overlay Dist.	9 ac	7%
Total	**132 ac**	**100%**

Note: Land Uses shown outside of Plan Area Boundary are as General Plan Land Use Designations

Key

- Existing Core Area Boundary

CASP Designations

- Retail with Stores
- Retail with Offices
- Service Commercial
- Residential Low Density
- Public/Semi Public
- Parks/Plazas
- First Street Transitional District
- B Street Transitional District
- University Avenue Residential Overlay District
- Transitional Boundary

General Plan Designations

- General Commercial
- Parks/Recreational
- Residential Medium Density
- Residential High Density

Gateway/Olive Drive Specific Plan Designations

- Commercial Service
- Residential Medium Density
- Multiple Use

0' 100' 1/8 mile 1/4 mile

2.8 Regulatory Framework: Zoning

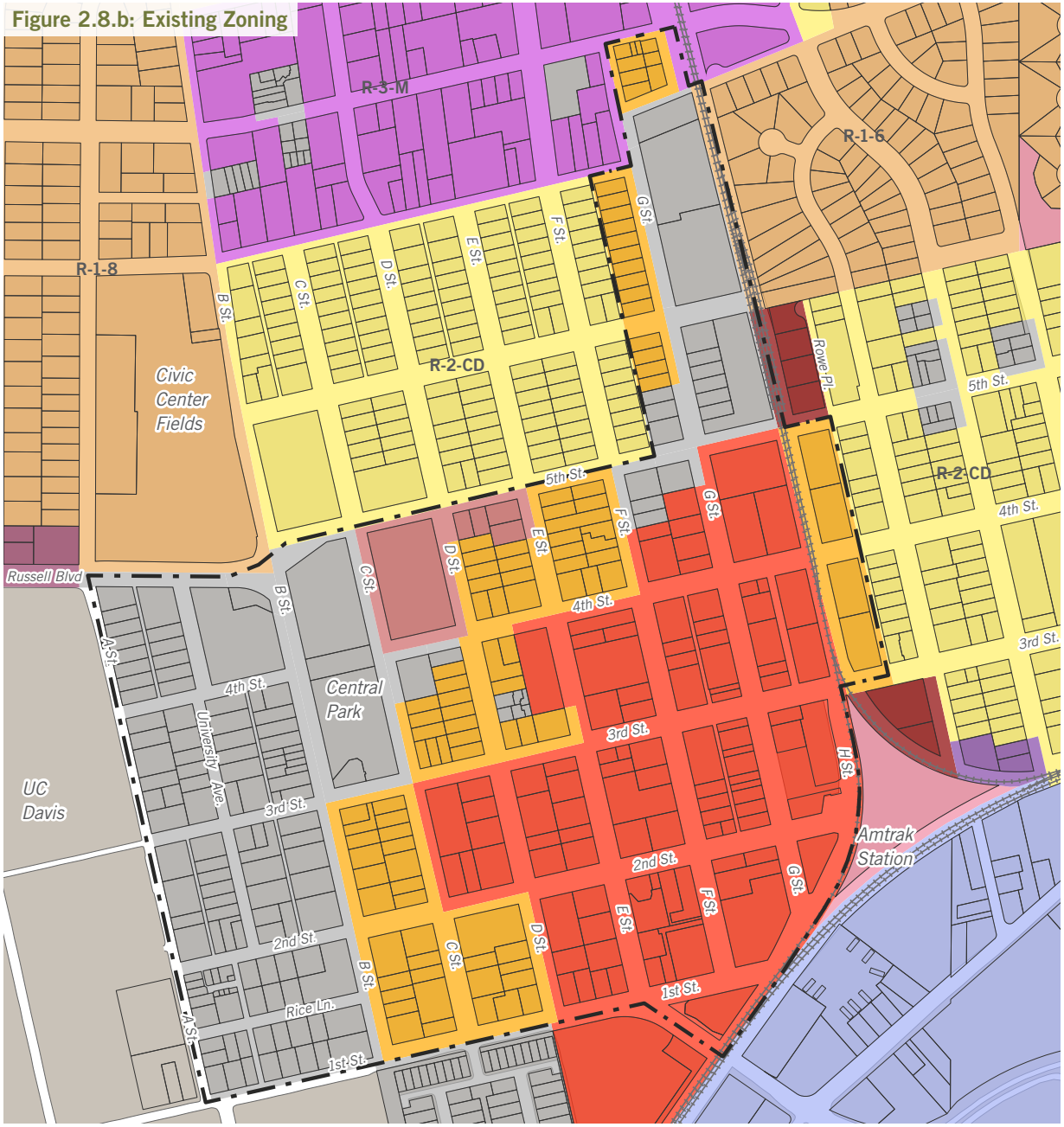
EXISTING ZONING STANDARDS

The Downtown Davis (Core Area) has four major zoning districts summarized below. Both the Central Commercial (C-C) and the Mixed-use (M-U) districts allow residential, retail, restaurant, and office uses; with the C-C district allowed a greater FAR and lesser setbacks than the M-U district. The Core Area Design Combining (C-D) District (Article 40.13 of the Zoning Code) applies to the C-C, M-U and C-I districts. Its purpose is to "provide for the blending of residential and commercial uses, to preserve the older architectural styles and encourage the intermingling of compatible structures, to enhance the pedestrian and bicycle-oriented character and preserve the tree-shaded ambience". C-D requirements include Mid-Block and Through-Lot Pedestrian Passageways, Commercial Frontage, Weather Protection and Parking requirements for new and renovated buildings. Planned Development (P-D) Districts (Article 40.22 of the Zoning Code) take up nearly 30% of Downtown blocks, several being negotiated zoning. While P-Ds can aid in the City's intent to promote innovation and housing diversity, they can also inadvertently be inconsistent with the community's long-term built vision for Downtown.

Figure 2.8.a: Summary of Existing Zone District Standards Applied to Downtown

	Central Commercial (C-C) District	Mixed-use (M-U) District	Core Area Infill (C-I) District	Planned Development (P-D) District
Reference	Article 40.14	Article 40.15	Article 40.05	Article 40.22
Intent	To implement the Core Area Plan; to provide for an increased variety and density of commercial activities; to preserve older architectural styles where feasible and encourage a harmonious intermingling of other structures; to permit residential uses where feasible; to promote pedestrian use and enjoyment of the core; to provide an area of intensive commercial activity. The Design Combining (C-D) district applies.	To preserve the older architectural styles, and to encourage a harmonious intermingling of other structures; to provide for an increased variety and intermixture of residential and commercial activities; to enhance the tree-shaded ambience, the pedestrian usage and character of the district. The Design Combining (C-D) district applies.	To implement the policies of the core area plan; to preserve and protect the residential character of the district, its tree-shaded ambience and its older architectural styles; to insure that new structures and uses harmonize with the surrounding residences. The Design Combining (C-D) district applies.	To allow diversification in the relationship of various buildings, structures and open spaces to be relieved from the rigid standards of conventional zoning. A P-D district must comply with the General Plan and applicable development requirements of the land uses proposed. The criteria for approval for P-Ds indicate the City's intent to promote housing of different styles and for all incomes and encourage variety and innovation in land development projects.
Permitted Uses	Retail (excl. gas stations), Restaurants, Offices, Hotels, Motels, Medical Clinics, Business & Technical Schools, Theaters, Group Care Homes (max. 6 clients), Residential (max. density as R-HD district), Auto-service stations fronting on Fifth Street. Refer Article 40.14.030	Retail (excl. gas stations), Restaurants, Offices, Hotels, Motels, Medical Clinics, Business & Technical Schools, Theaters, Group Care Homes (max. 6 clients), Residential (max. density as R-HD district), Auto-service stations fronting Fifth Street. Refer Article 40.14.030	Single-family, Duplex, Public & Semi-public (recreational, educational, religious, public service, public utility (excl. corporation/ storage/ repair yards, warehouses, etc) Group Care Homes (max. 6 clients), Emergency Shelters (max. 35 occupancy). Refer Article 40.05.030	
Height Regulations	None, but conditional use permit required for > 2 stories	3 stories max.	2 stories max. or 30 ft	
Floor Area Ratio (FAR)	Total FAR not to exceed 3 times the lot area	1.5 - 2.0 FAR for mixed-use; 1.0 - 2.0 FAR for non-mixed-use	Total FAR not to exceed 3 times the lot area. Minimum lot area is 5,500 sq ft.	
Front & Side Setback	None required			
Rear Setback	7½ feet public easement for blocks designated for mid-block pedestrian passages by C-D district; 10 feet for other blocks (unless second egress provided)			

Figure 2.8.b: Existing Zoning



'Core Area' Existing Zoning		
Zoning District	Gross Land Area	Ratio
C-C [Core Commercial]	55 ac	42%
M-U [Mixed-use]	30 ac	23%
P-D [Planned Development]	41 ac	31%
C-I [Core Area Infill]	6 ac	4%
Total	132 ac	100%

Key

- Existing Core Area Boundary
- C-C
- M-U
- P-D
- C-S
- C-I
- R-1
- R-2
- R-3
- R-R
- P-SP
- I-R
- Gateway/ Olive Drive Specific Plan Area

0' 100' 1/8 mile 1/4 mile

2.9 Other Regulations and Guidelines

HISTORIC CONSERVATION

The 'Historic Preservation Management' article of the Davis zoning ordinance is the basis for the Central Davis Historic Conservation District, an overlay district that covers all of the Downtown or 'Core Area' as well as the three 'Traditional Neighborhoods' - Old North, Old East and University Avenue/ Rice Lane.

DESIGN GUIDELINES

Design Guidelines affecting Downtown are provided by the Davis Downtown and Traditional Residential Neighborhood Design Guidelines document (DDTRNG). The guidelines are to promote historic conservation, reuse of existing structures, and ensuring that new development is compatible with the existing context. The Design Guidelines identify several categories of 'Character Areas' within Downtown: Commercial Core, Mixed-Use Transition, and Special Character Areas.

The Design Guidelines detail various standards relating to building form, placement, architectural character, frontages, parking, etc. While some of the guidelines direct a specific standards, such as "buildings should not exceed 45 feet in height," other guidelines are more subjective in nature stating, "Building heights remain in scale with those seen traditionally." These guidelines could be used as a basis in drafting updated zoning standards for the Plan Area. In the process of updating the zoning for the Plan Area, it would be beneficial to conduct a micro-scale level documentation and analysis of each suggested character area.

SIGNAGE GUIDELINES

These guidelines apply to the Central Commercial (C-C) and Mixed-use (M-U) zones. These guidelines describe signage requirements in detail, though it is unclear how these guidelines are applied because the document is a combination of policy direction and standards. The guidelines contain much high quality information and should be integrated into the updated Downtown Specific Plan.

Figure 2.9.a: Commercial & Mixed-Use Transition Character Areas

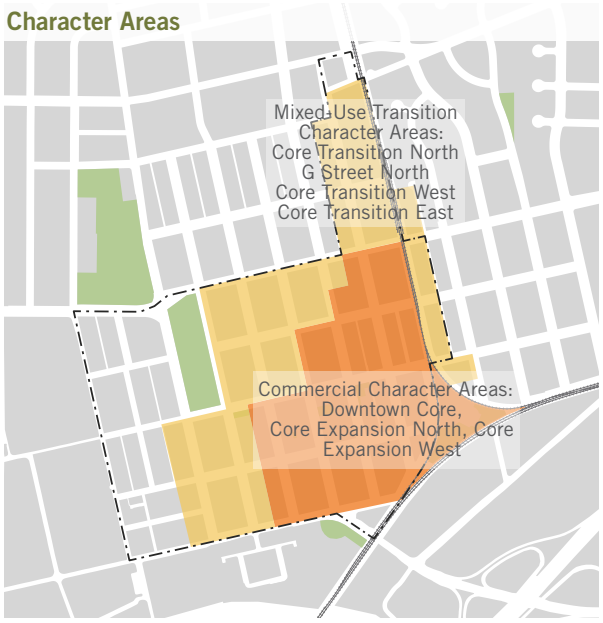


Figure 2.9.b: Special Character Areas

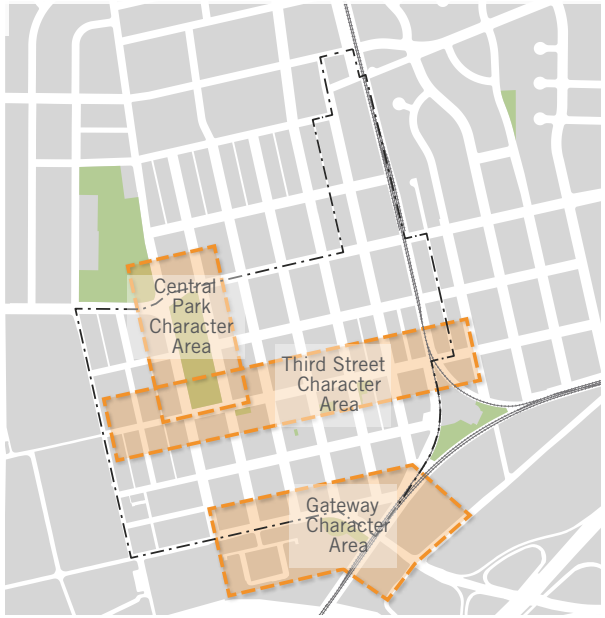
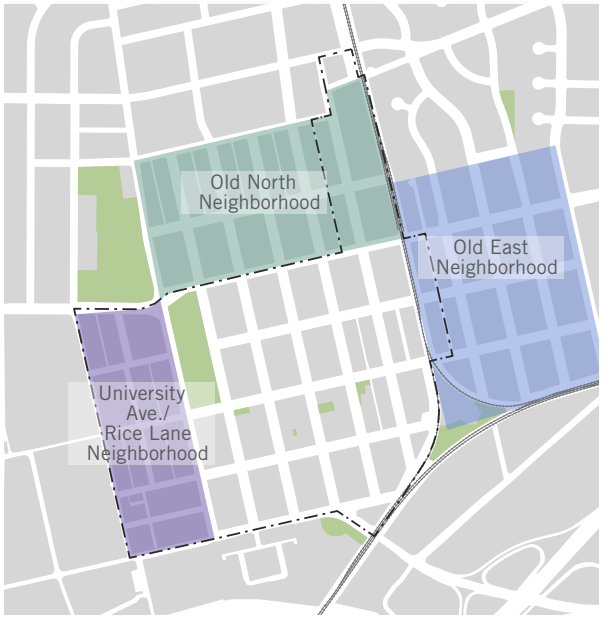


Figure 2.9.c: Traditional Residential Neighborhoods



2.10 Housing Overview

HOUSING CHARACTERISTICS

According to 2016 figures, Davis has about 26,000 housing units with an average occupancy of 2.7 persons per household. 46% of the housing is owned and 54% renter-occupied. 56% of the housing is single-family (attached and detached), 12% are 2-4 units per building, and 30% are multifamily buildings with 5+units per building. More than half of Davis' housing was built since 1980 and only 11% prior to 1960. For a further discussion on housing see Section 3.3 Residential Market Analysis.

HOUSING POLICIES

Davis' efforts over the years to protect its traditional look and feel have influenced development of policies and resolutions that have resulted in very little housing getting constructed in the past decade; particularly in the Downtown area.

Adopted in 1992, the Phased Allocation Plan is a housing allocation system with a "rolling" five year phasing period, whereby the City Council annually designates the number of units to be constructed for the fifth year and may also adjust the units designated for the first through fourth years. This determination is based on criteria including policies of the General Plan; the number of units approved and actually constructed in prior years; and completion of the City's infrastructure network.

To meet the Regional Housing Needs Allocation (RHNA) would require new construction of 1,066 units, rehabilitation of 13 units, and conservation/preservations of 20 units for a total of 1,091 units during the 2013-2021 period across various income levels. The Davis' 1% growth cap does not impede the ability to meet the RHNA. The 1% Growth Cap would translate to a limit of 2,800 new housing units, approximately 1,700 units more than the RHNA requirement.

AFFORDABLE HOUSING

The City's Affordable Housing Ordinance (Municipal Code Article 18.05) specifies requirements for inclusionary housing in ownership and rental developments including density bonuses for provision of very low and low-income units. The City's affordable housing policy ranges from 25-35%, and also requires all new rental housing (more than 5 units) to provide 15-25% affordable rental units in perpetuity. The General Plan provides density bonuses by allowing one additional market rate unit for each affordable or elderly unit provided on-site or through affordable land dedication. Typically, the low-income and extremely low-income projects qualify for the one-on-one bonus up to the 35% density bonus allowed by state law.

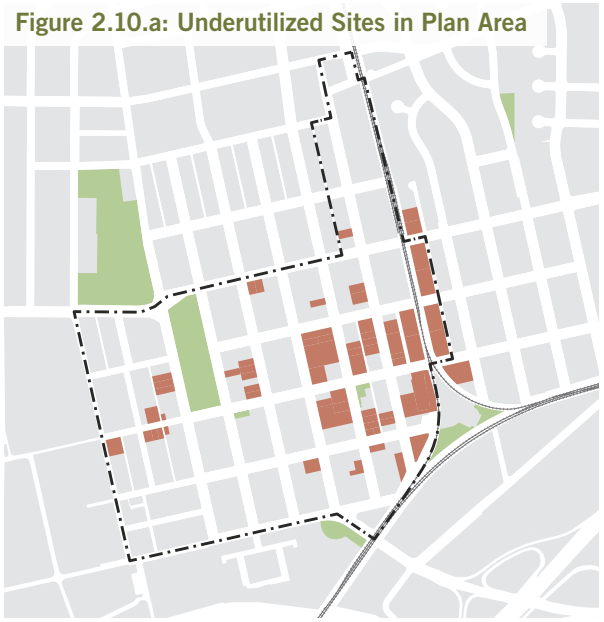
DOWNTOWN INFILL POTENTIAL

In the latest update to the Housing Element of the General Plan, City staff analyzed the C-C and M-U districts for infill potential, and identified 65 sites with potential for additional residential units, which could help meet projected housing needs. The map on this page shows underutilized sites in Downtown (Source: Davis Housing Element). Refer Appendix 10 for a detail map of underutilized parcels in the B and Third Streets site. Recent completed projects (McCormick Building, Roe Building, and Parkview Place) indicate that there is an existing demand to redevelop such underutilized sites.

The City has also identified 'alternative residential opportunity sites' not needed to meet the RHNA. These sites are grouped into: "Green Light" sites (those ripe for development), "Yellow Light" sites (those to be considered as needed), and "Red Light" sites (those that are not needed in the foreseeable future). Applications for all projects in the "Green Light" group sites would be processed as submitted and permits would be released on a first-come, first-served basis.

Refer Appendix 11 for relevant tables from the Housing Element about RHNA and available sites (Tables 41, 42, 46) and Appendix 12 for the full list of sites that are currently underutilized.

Figure 2.10.a: Underutilized Sites in Plan Area



Source: Housing Element Update, 2013 - 2021

2.11 Implementation Issues

LAYERS OF POLICY

The regulatory framework for Downtown Davis targets development density, built form, historical preservation, mobility, and other development controls but the sheer number of documents, and consequent areas of overlap have led to confusion and uncertainty in built outcomes. It is also not clear which policies and documents are regulatory in nature, and which advisory, or provide guidance. Several Task Forces and other attempts have, over the years, tried to alleviate this issue but the results have not been fully effective.

The planning staff at the City of Davis have articulated these issues in their memo "Major Recurring Challenges with the Implementation of the Core Area Specific Plan." (Prepared by City of Davis Department of Community Development and Sustainability and Planning Commission Subcommittee on CASP Analysis and Recommendations, September 21, 2015). The 'recurring problems' have been listed here.

Staff has also estimated the approximate impact of the recurring challenges in time and monetary terms:

- Ongoing information: Approximately 5 to 10 hours of staff time or $1,000 to $2,000 per month.
- Development project reviews: Approximately 10 to 40 hours of additional processing time by staff or $2,000 to $8,000 per project, which can add approximately 2 to 8 weeks of processing time given other staff workload and responsibilities.
- Per year, approximately 4 to 6 prospective applicants do not apply because of lack of clarity or uncertainty.

Recurring Challenges with Implementation of the CASP and Other Policies:

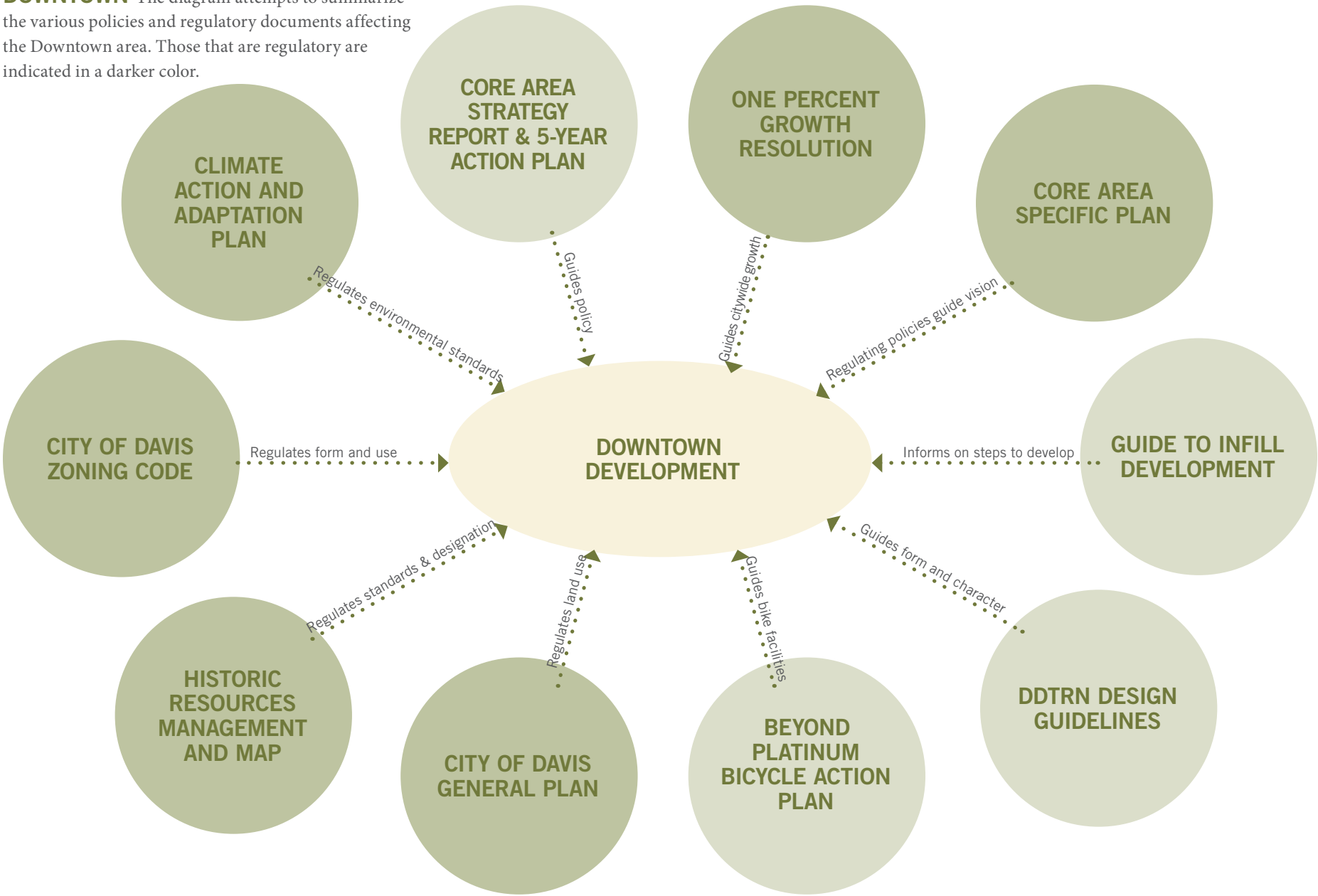
1. Documents are cumbersome yet lack substance in some issues.
2. Difficulty recognizing differences between policies, standards and guidelines.
3. Uncertainty related to required use mix in mixed-use subareas.
4. Uncertainty related to historic preservation.
5. Uncertainty related to potential building heights.
6. Uncertainty related to potential residential densities and total floor area ratios.
7. Uncertainty of approval of parking in-lieu fees and policy aspects of in-lieu fee amounts.
8. Reconciliation of adopted policies and codes with current densification policies of City Council.
9. Unclear expectations for collaboration with area residents.

Additional Challenges include:

10. Lack of clarity of the boundaries of the Commercial Core and Mixed-Use transition areas.
11. Need update of Interim Infill Development Guidelines.
12. Requirement that a bank in neighborhood centers must be a satellite of an existing facility in the Core Area discourages redevelopment in Core Area.
13. Specific conflicts or errors in need of clarification or correction.

PLANNING DOCUMENTS AFFECTING DOWNTOWN

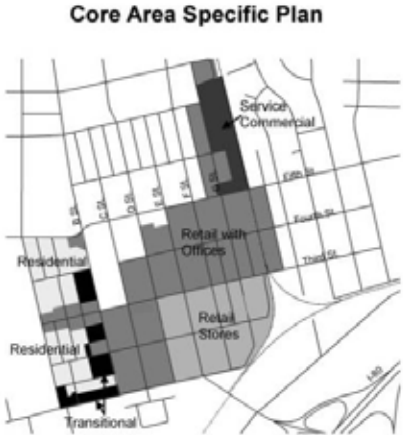
The diagram attempts to summarize the various policies and regulatory documents affecting the Downtown area. Those that are regulatory are indicated in a darker color.



To illustrate the complex set of issues facing City staff, an example from Downtown has been used in the "Major Recurring Challenges..." document, shown on this page. As shown in the diagram, one site has several classifications that can have potentially varying policies, standards and guidelines. These classifications for this site are:

- CASP: 'Retail With Office' is the permitted land use. The site also falls under the 'Transitional Boundary'.
- Zoning: Mixed-use (M-U)
- DDTRN Design Guidelines: Mixed-use Character Area - Core Transition North

Since this site has 'Retail with Office' as the designated Core Area Specific Plan land use, yet is also zoned as 'Mixed-Use', it is unclear whether vertical mixed-use is required, not required, or encouraged, and additionally whether 'non mixed-use' is allowable through a Conditional Use permit. Similarly, building height permitted by right is higher in the Mixed-Use zoning district than the Central Commercial zoning district, which is counter-intuitive since the intensity of development is intended to be highest in the Central Commercial blocks south-east of this site.



2.12 Chapter Summary of Findings

OVERVIEW

The preceding analysis results in the following key findings. These findings are intended to highlight the opportunities and help frame the approach to the Specific Plan effort for Downtown Davis.

OPPORTUNITIES

- Downtown Davis is a "walkable" environment because of its many destinations, pedestrian-scaled streets and highly interconnected blocks which accommodate automobiles while emphasizing walking and cycling. These attributes lay a strong foundation to create a future Downtown that offers a high quality of life in the form of diverse opportunities to live and work, with convenient access to amenities and services.
- Adjacency of the Downtown to the University of Davis and nearby neighborhoods has allowed the Downtown to historically develop as the region's natural center. Any improvements to the Downtown will only increase its relevance within the Davis Planning Area.
- The majority of existing buildings are single-story, thus providing significant opportunities to grow the downtown by intensifying while retaining its small town physical character.
- According to the recent census, there are fewer than 1000 people living within Downtown, relatively few for such a walkable environment. At the same time, based on community feedback, there seems to be a high demand for Downtown living, with its walkable character and easy access to amenities. This presents a valuable opportunity for introducing more housing choice within Downtown.
- Several Downtown parcels, approximately 10 acres in area, are owned by the City, offering high potential for the creation or enhancement of public spaces, and possibly infill housing.

CONSTRAINTS

- Downtown has very few vacant parcels, and many parcels are narrow in lot width. This could limit development and redevelopment opportunities and options for different building types.
- There is a lack of usable public space in Downtown and the available spaces are not conducive to being used by all age groups.
- Current zoning standards imply that a certain level of intensification can occur but this is not possible upon applying all the standards: the zoning standards are not coordinated to produce predictable and feasible development.
- The current regulatory framework is confusing because of the six policy documents, two sets of guidelines, and the existing zoning. In addition, that information has many areas of overlap and inconsistency as well as a lack of clarity in whether a document is advisory or regulatory.

AREAS FOR FURTHER STUDY

- **Engage the Community in Developing a Vision for Downtown.** Through an extensive community engagement process that includes a variety of technical inputs and refinement, the Specific Plan is intended to reflect the updated community vision and aspirations for Downtown. This vision will be shaped into feasible design solutions that address the issues, needs and opportunities and are implementable.
- **Assess Relevance of Current Planning Documents**. Upon establishing the community vision in the two community design charrettes, relevant sections and standards from key policy documents will need to be analyzed for compatibility with the shared community vision: are the current documents still relevant and necessary? If so, is the content consistent with or contradictory to the community vision? The results of this analysis shall inform the new standards and regulations that implement the community's vision in the Downtown Specific Plan.
- **Develop an Accessible Specific Plan Document Format.** For ease of use and daily implementation by many people, the Specific Plan document will need to be concise with clear graphics that leave no room for misinterpretation. Additional information will be in the form of appendices, to keep the main content concise, clear, and useful. Consistency in terminology and language is also key, as is the need to indicate clearly what is advisory and what is regulatory.
- **Develop Concise and Clear Policy and Standards to Implement Vision.** Ideally, the Specific Plan should be the only document that developers and City staff need to use when evaluating proposals. If references to other documents are necessary, those references must be clearly articulated in the Specific Plan document.

This page intentionally left blank.

chapter 3 Fiscal Analysis

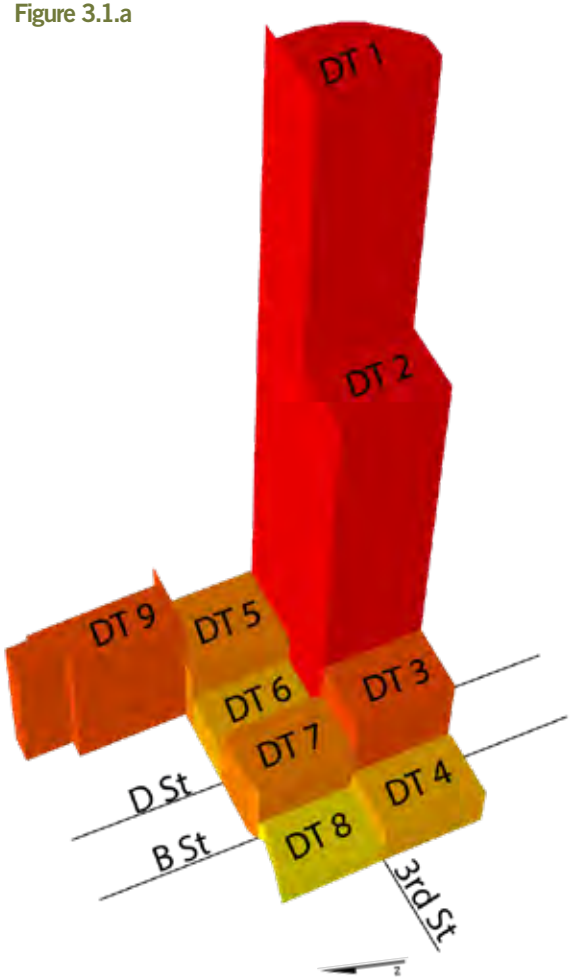
Author: Urban3

3.1 Retail Analysis

In addition to property tax production, retail maps and models (this and following page) were run to measure productivity on a per acre basis. The district boundaries were drawn per state standards, which protects the confidentiality of individual businesses, but still gives a sense of the type of revenue production based upon location in the city and downtown. As shown in the 3D models, the quadrants in downtown bound by 1st street and 3rd street to the north and south, and H street and D street to the east and west are by far the most productive in sales tax generation across the city.

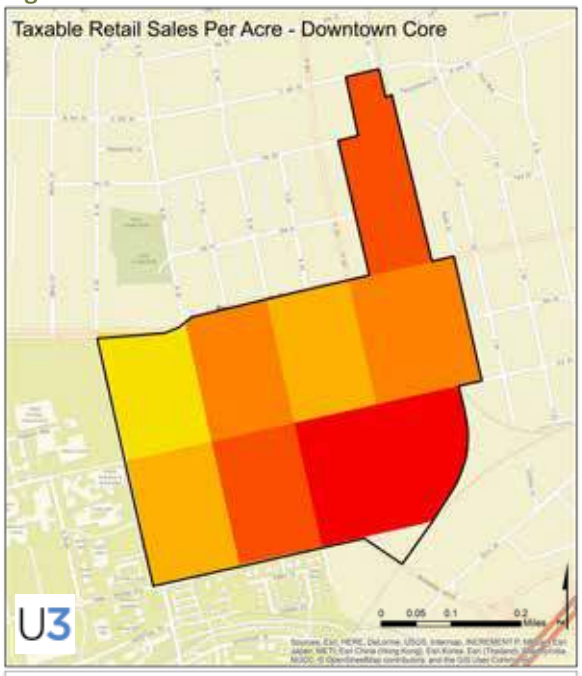
With over 50 restaurants, cafes and bars, and additionally over 50 retailers, service providers and other businesses, it is no surprise that this area creates enormous value in the form of sales tax revenues.

Figure 3.1.a



All figures shown have been adjusted for inflation

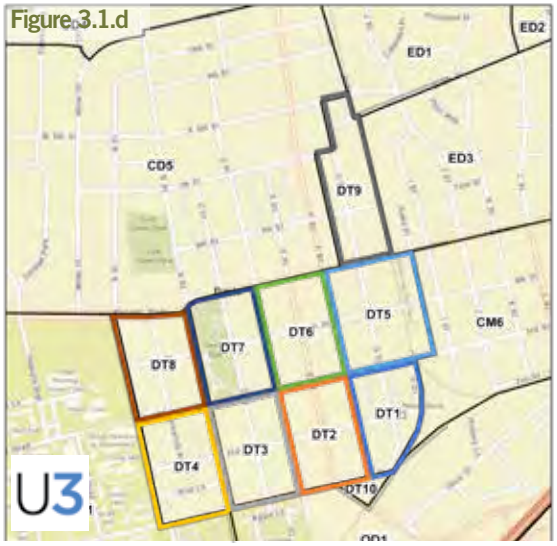
Figure 3.1.b



Data Source: City of Davis GIS, Avenu Insights & Analytics

Figure 3.1.c

Figure 3.1.d



TAXABLE SALES

Examining the Downtown Core

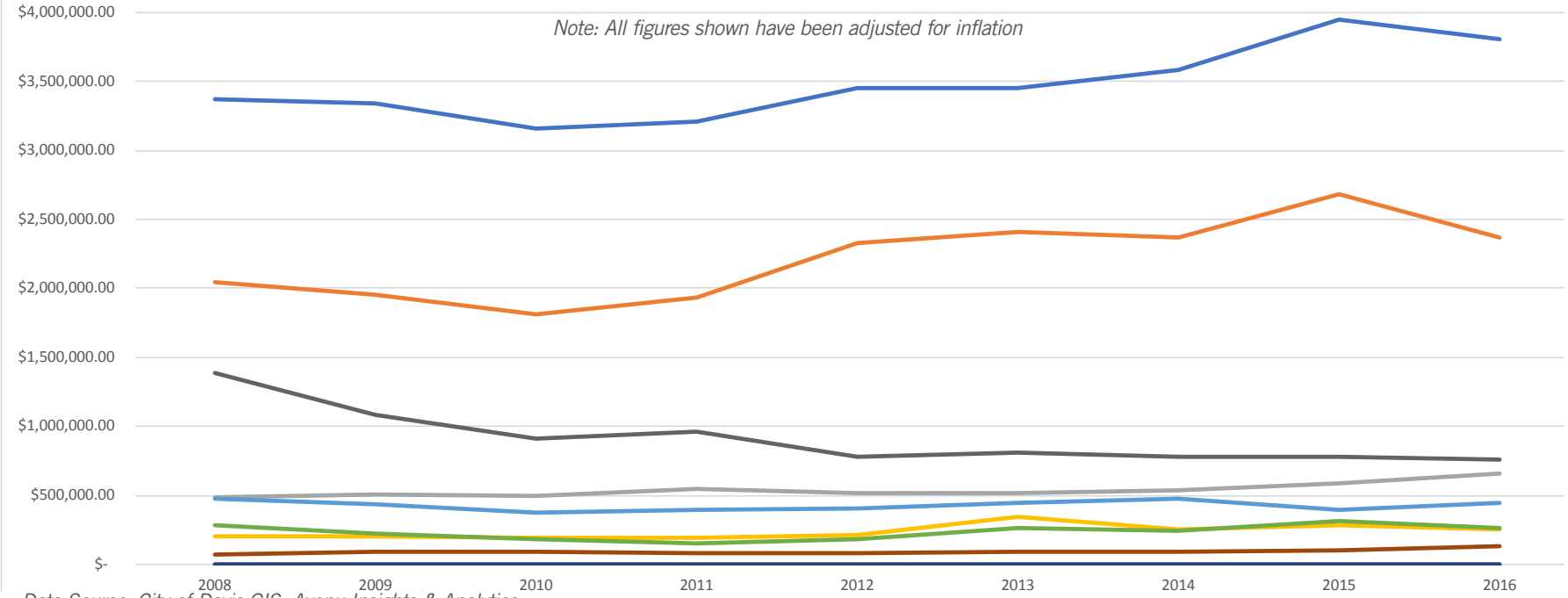
The table below (Figure 3.1e) shows the taxable sales per acres for Downtown Davis, split up into the divisions required to access the data (as shown in the map in Figure 3.1d). The two highest preforming divisions, DT1 and DT2, are actually the districts with the highest sales tax potency across the city when area is taken into account. Examining the number and types of businesses in DT1 and DT2 and comparing it with the other DT divisions reveals stark differences. The divisions DT3, DT4, DT7 and DT8 have a much higher concentration of low rise residential uses, a smaller number of businesses, and more land allocated to public space. This change in intensity of use results in much lower revenue from sales taxes.

Figure 3.1.e

Sales Tax Area	Number of Businesses	Number of Jobs	Total Taxable Sales (2016)	Retail Taxable Sales Per Acre (2016)
DT1	134	655	$ 44,509,000	$ 3,806,391
DT2	181	703	$ 33,425,400	$ 2,384,154
DT3	51	251	$ 9,265,000	$ 654,936
DT4	16	85	$ 3,720,200	$ 249,118
DT5	66	259	$ 8,021,800	$ 442,516
DT6	27	238	$ 3,795,700	$ 268,776
DT7	59	86		
DT8	14	32	$ 1,901,900	$ 133,798
DT9	27	173	$ 11,141,000	$ 763,785

Note: All figures shown have been adjusted for inflation

Figure 3.1.f



Data Source: City of Davis GIS, Avenu Insights & Analytics

Figure 3.1.g

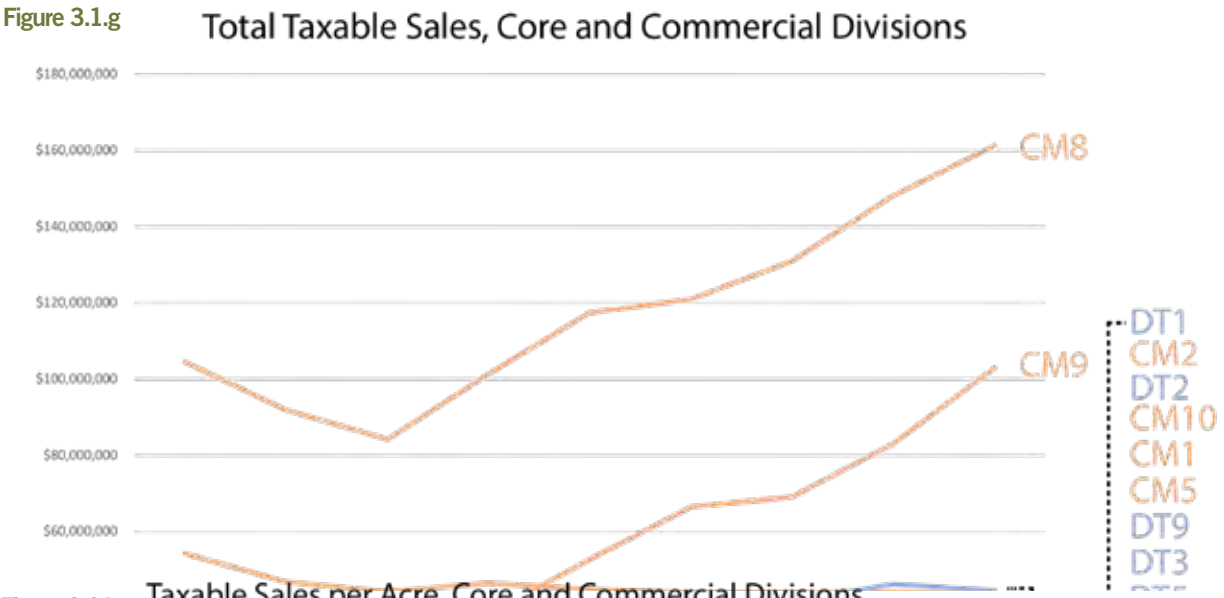
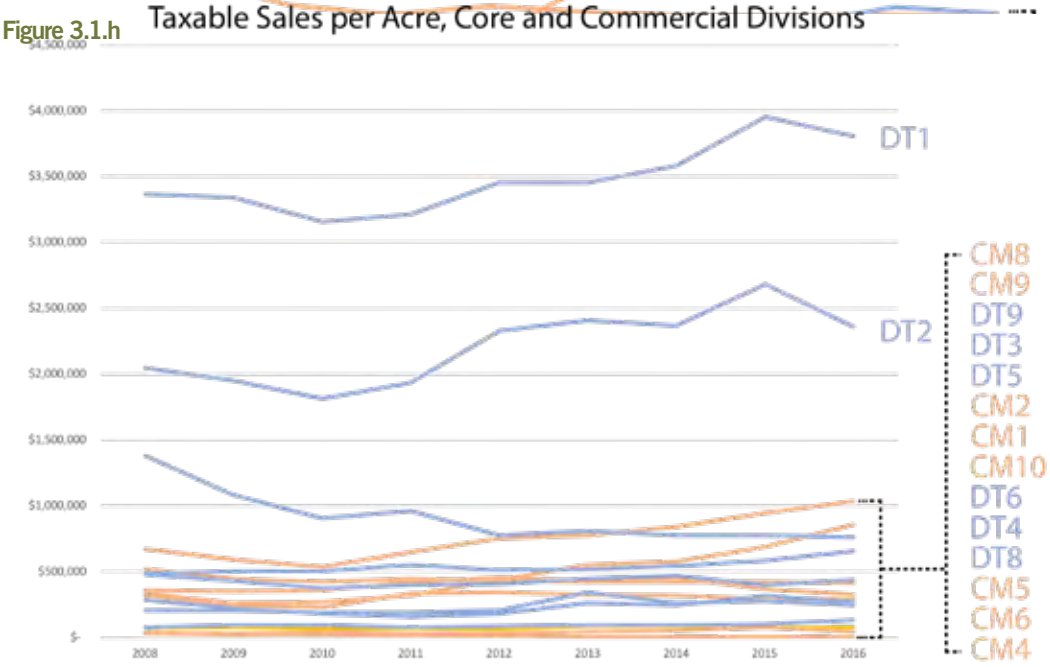


Figure 3.1.h



Data Source: City of Davis GIS, Avenu Insights & Analytics

TAXABLE SALES

Comparing Downtown Davis with Commercial Areas

The table to the left (Figure 3.1g) shows the total taxable sales for the sales tax divisions found in the Davis Downtown compared with commercial divisions along corridors across the city*. This gives the viewer a good idea of which divisions are most productive from a sales tax standpoint but does not take into account the difference in size between the commercial divisions and the downtown core divisions.

The table to the left (Figure 3.1h) shows the same sales tax divisions but with the taxable sales divided by the acreage occupied by the division. Once the area is taken into account the true productivity of Downtown Davis becomes more apparent. Not only are the most productive divisions of downtown the clear winners, they are also more resistant to economic downturns (shown in the 2012 recession).

*Divisions CM3, CM7, and DT7 are not included in analysis because this data was not received.

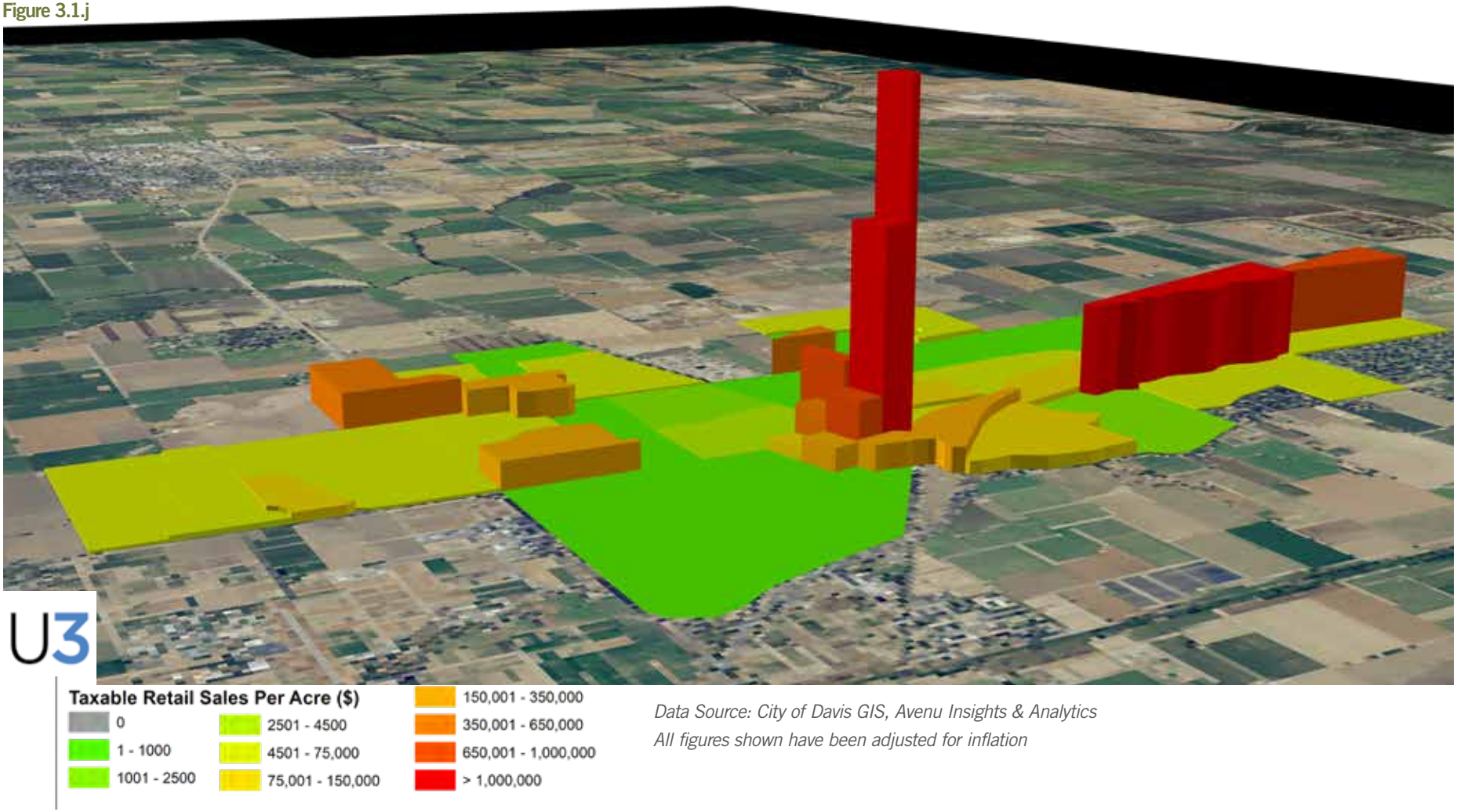
Figure 3.1.i

Note: All figures shown have been adjusted for inflation

DOWNTOWN RETAIL MARKET

This image (Figure 3.1j) visualizes the taxable sales per acre across the City of Davis. The two divisions of downtown with the highest concentrations (divisions DT 1 & DT 2) clearly show the retail possibilities of a moderately dense urban environment. The division with the third highest taxable sales per acre is CM8.

Figure 3.1.j



Data Source: City of Davis GIS, Avenu Insights & Analytics
All figures shown have been adjusted for inflation

3.2 Fiscal Analysis

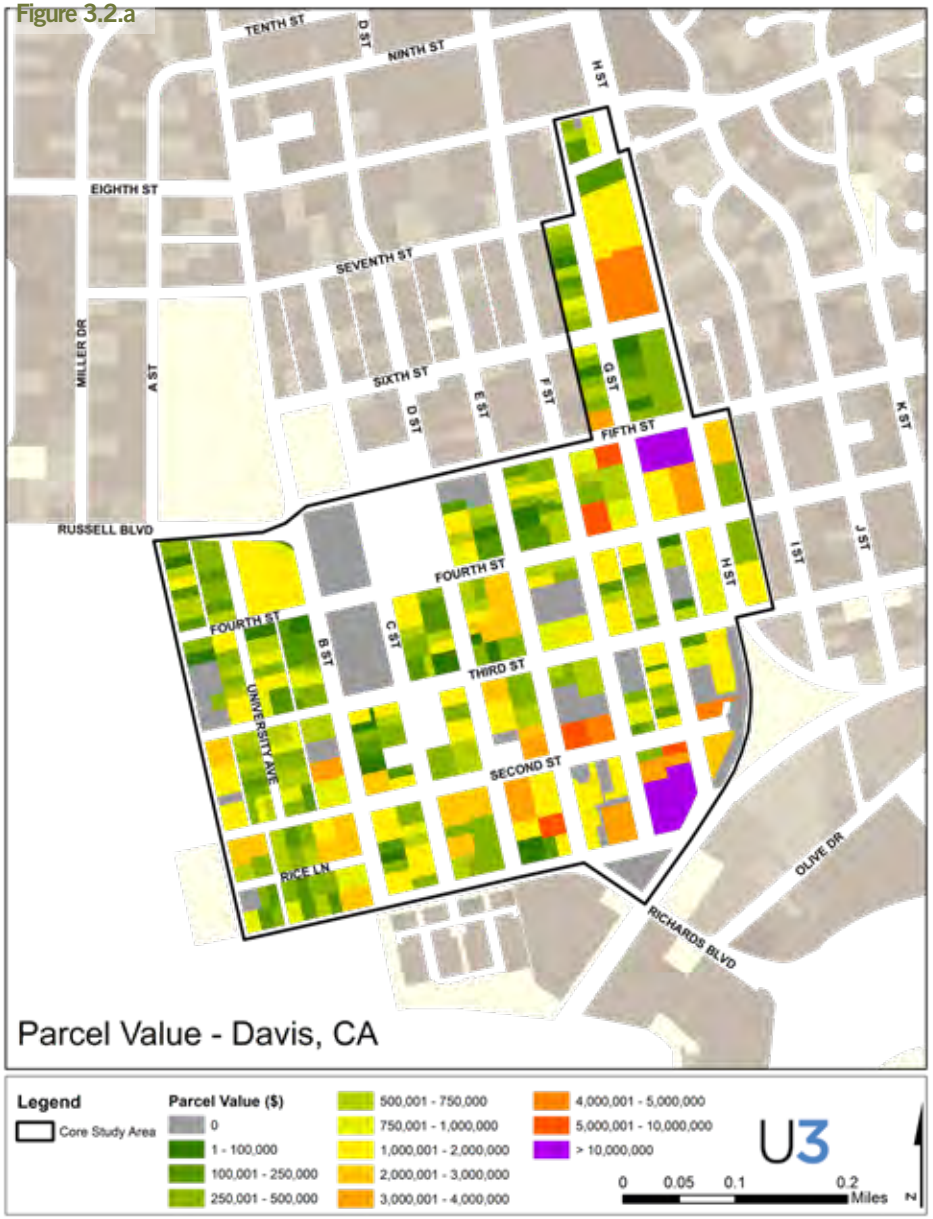
METHODOLOGY

A major part of Urban3's economic analysis is the value per acre method. Utilizing property tax data from Yolo County, property tax values in each parcel were processed, analyzed and visualized into a 3D Tax Value per Acre model. Taking into account how much land a particular development consumes enables different types of properties, in different parts of the community to be compared in an apples to apples manner. Further, the more land a parcel consumes, typically the more public services it requires (streets, utilities, etc.).

This method of efficiency is not a foreign concept. In regards to automobile efficiency, the gallon is utilized as a unit of measure. Different cars have differently-sized gas tanks, so we use the gallon as a measurement of efficiency, not the size of the tank. In other words, we use miles per gallon, not miles per tank to make a relative comparison of cars and trucks. Using a per acre metric for land helps to better understand the potency of one parcel against its neighbor, as well as the entire city and county.

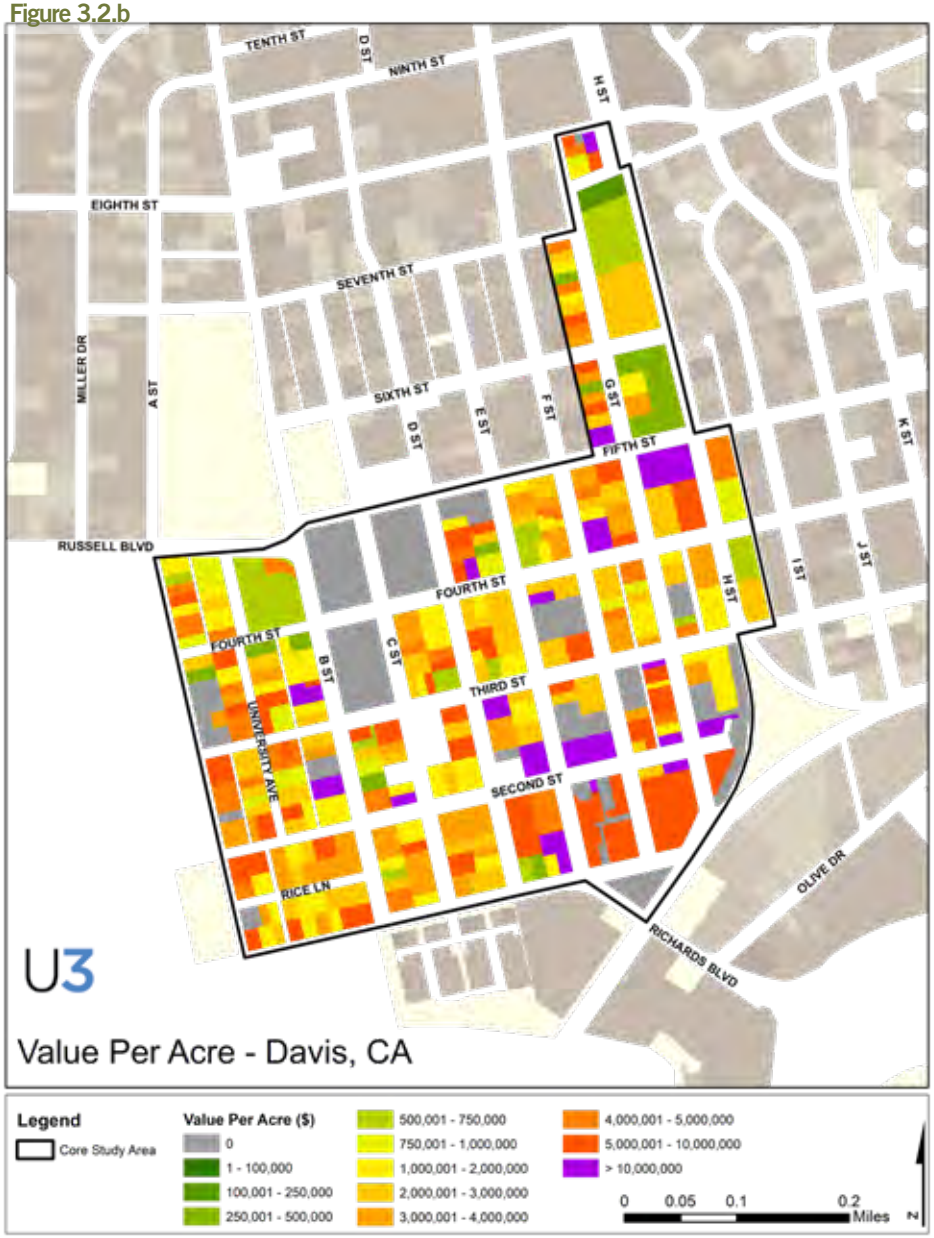
The map image on the right (Figure 3.2a), and following page are the conventional way in which "value" is commonly asserted. Indeed, it is accurate and necessary to understand the overall value of a property, but because the parcel sizes vary wildly across an entire district or City, it masks the relative economic profile. As seen on these pages and pages 3-4 and 3-5, it's easier to understand the difference by analyzing the difference in the maps and models as seen 'side-by-side.' The level of "potency" of development patterns are more clearly seen in the "Per Acre" methodology.

Figure 3.2.a



Data Source: City of Davis GIS, Yolo County Assessor

Figure 3.2.b



Data Source: City of Davis GIS, Yolo County Assessor

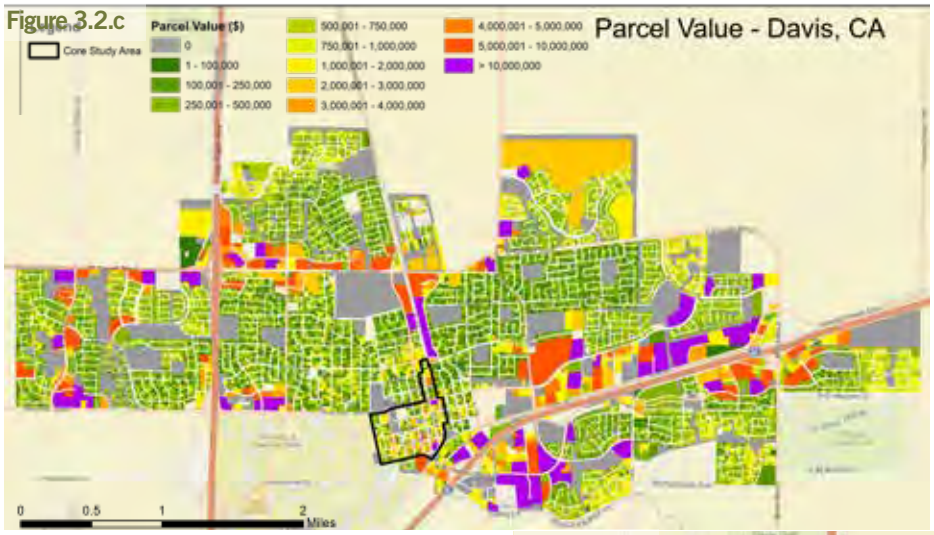
PROPERTY TAX ANALYSIS

Visualizing tax value trends in 3D enables a different perspective on development across the community. Property taxes are the backbone of county and municipal revenue. Efficient property tax production has a direct impact on the availability of funds to repair roads, provide quality education, and maintain adequate public services. Identifying development that packs a financial punch is critical to cultivating community wealth.

The maps illustrate how the value per acre metric identifies the lower-efficiency areas (green) making up most of the City's land area and the concentration of higher-efficiency land (dark red and purple), clustered near Downtown Davis (Figure 3.2c-g).

Davis' growth has reached its General Plan growth boundary, and proposed changes in the urban boundary require approval through a citizen vote per Measure J/R. Though much of the land has been used within the urban boundary, much of the development has been suburban in nature. Though denser and more valuable than older suburban patterns, it pales in comparison to the infill development in the downtown. Many of these developments show up as purple values in the tax model, the highest value per acres in the county. Put simply, these are the most revenue potent properties. The mixed-use building on the corner of 2nd and G streets (including "Sole Desire" shoe store on the first floor) is one such development, reaching $12.6 million per acre, the highest value per acre in the City and over 6 times the property tax potency of a standard Target shopping center.

Figure 3.2.c

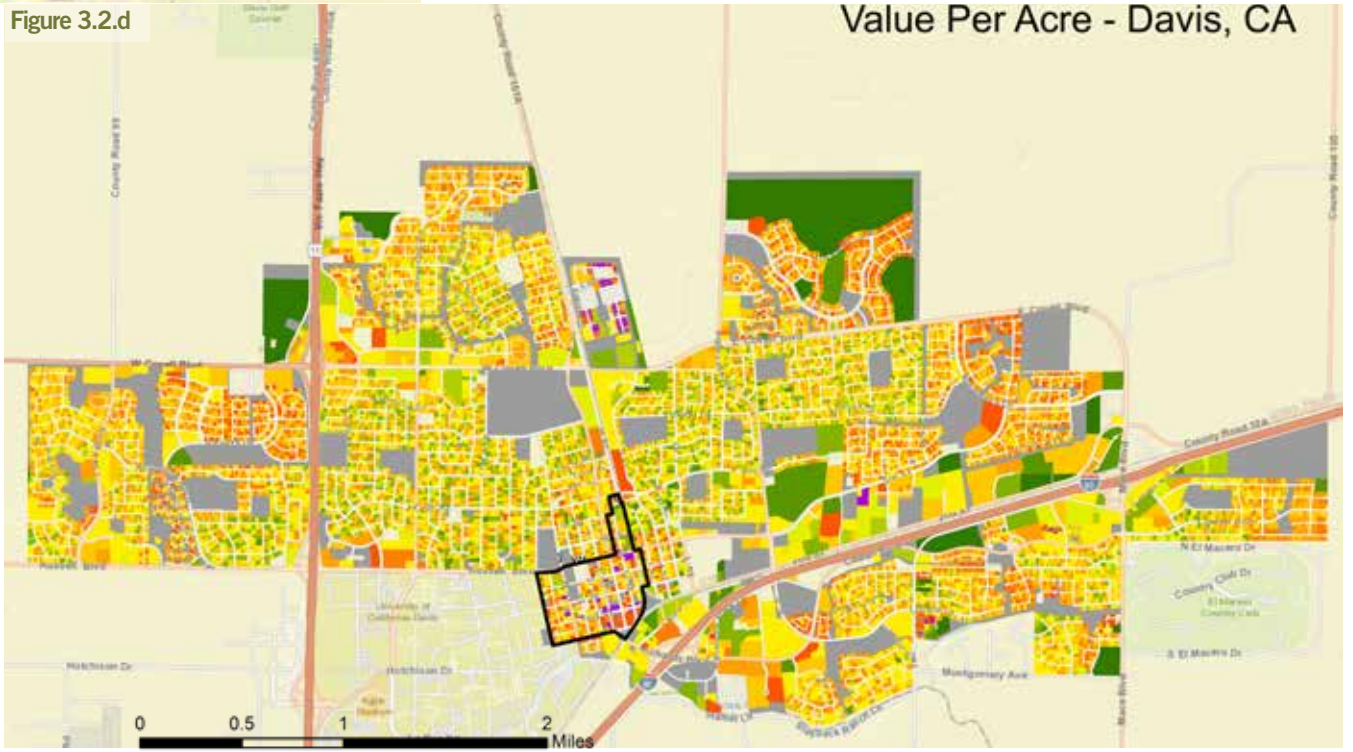


Data Source: City of Davis GIS, Yolo County Assessor

The top graphic (Figure 3.2c) illustrates the total value of each parcel city-wide. The highest value properties are in purple, the lowest in green, and nontaxable in gray. The most expensive properties are large parcels along commercial corridors, with smaller residential areas being of lesser value.

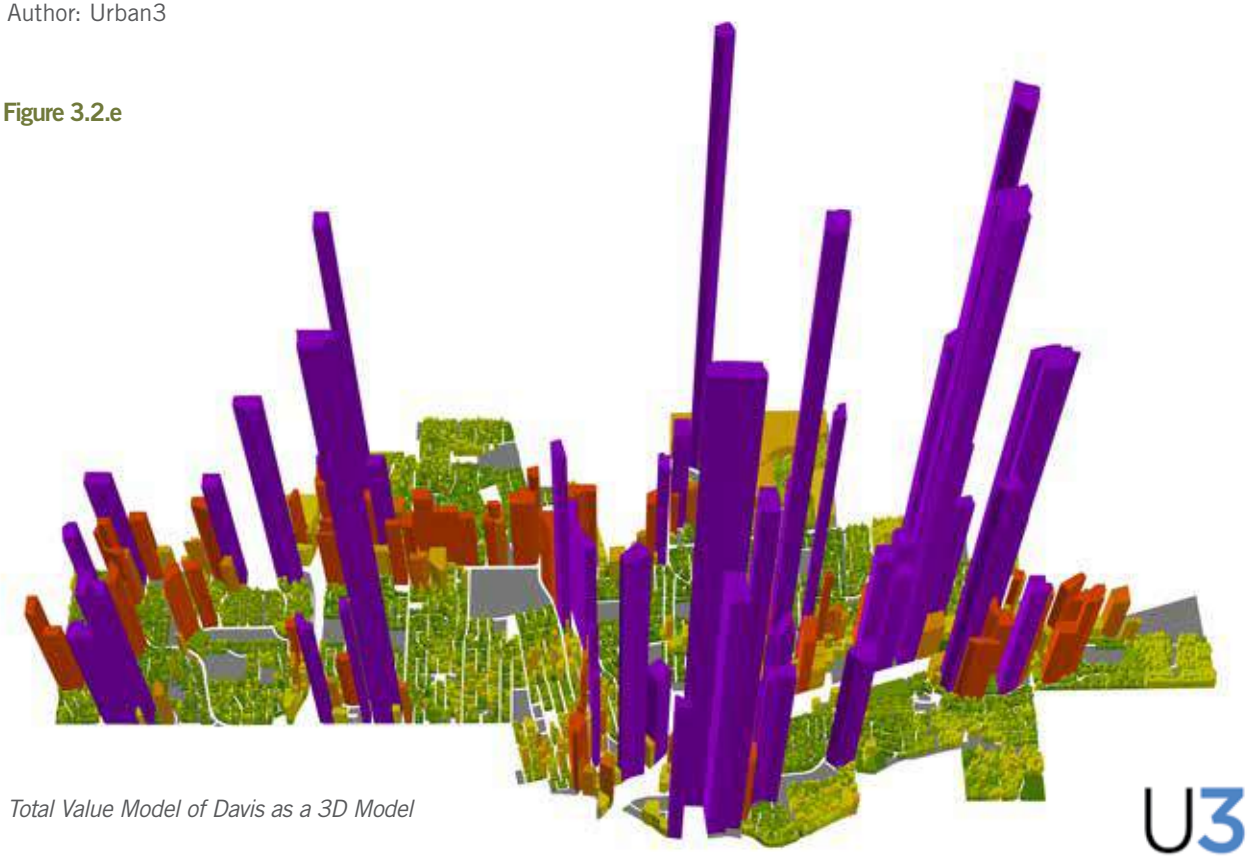
The lower graphic (Figure 3.2d) depicts the value per acre of each parcel city-wide. The colors shift and reveal that the highest value per acre parcels in purple are concentrated in Downtown Davis. The models on the following page take this analysis and visualize it in 3D.

Figure 3.2.d



Data Source: City of Davis GIS, Yolo County Assessor

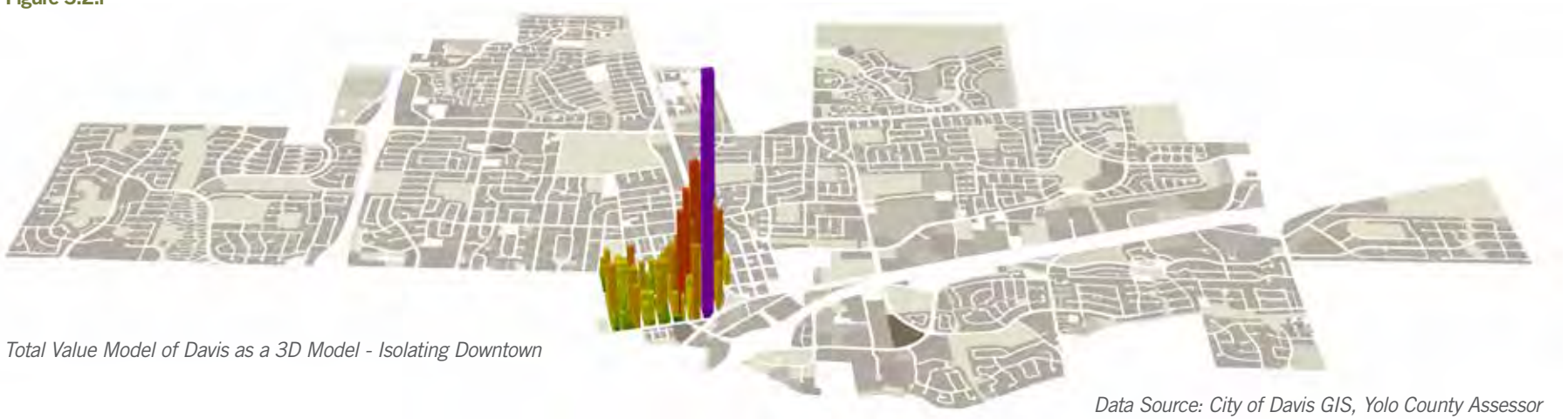
Figure 3.2.e



Total Value Model of Davis as a 3D Model

These are models of the total property value for all properties in the City of Davis (Figure 3.2e) and all properties within the downtown core (Figure 3.2f). Compare the bottom parcel value image with the value per acre model on the following page (Figure 3.2g) to see how much of a difference it can make to take area into account when looking at property values.

Figure 3.2.f



Total Value Model of Davis as a 3D Model - Isolating Downtown

Data Source: City of Davis GIS, Yolo County Assessor

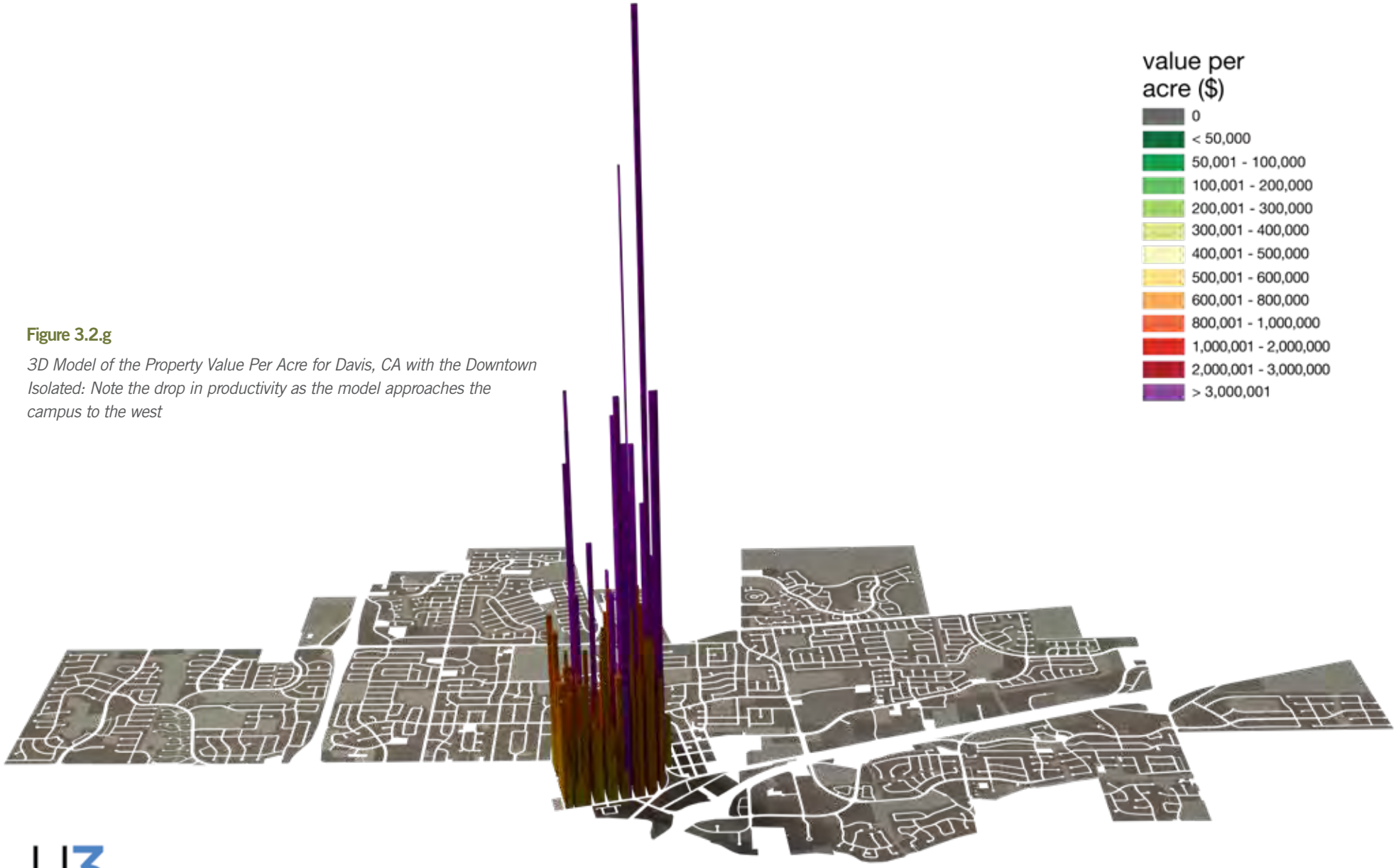


Figure 3.2.g

3D Model of the Property Value Per Acre for Davis, CA with the Downtown Isolated: Note the drop in productivity as the model approaches the campus to the west

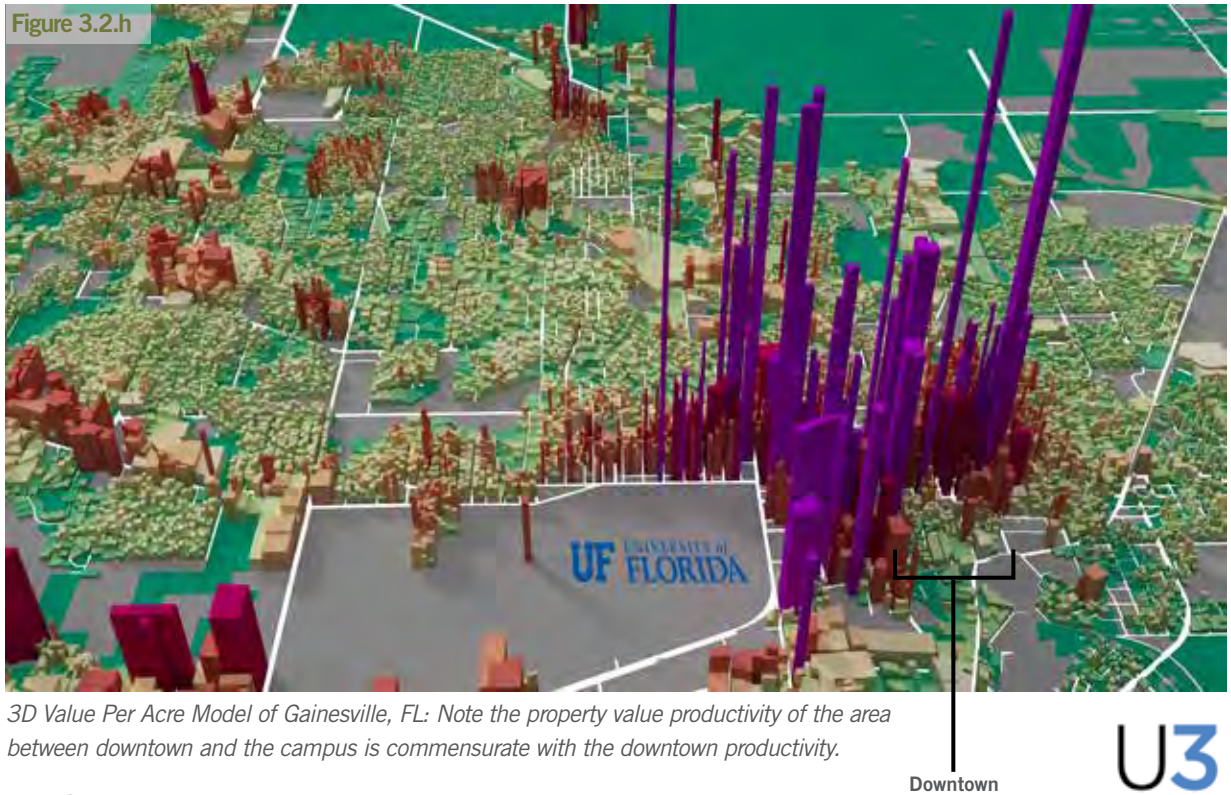
Data Source: City of Davis GIS, Yolo County Assessor

The areas directly abutting the University property along the southwest border of Downtown Davis are not yielding the value productivity we see in other college communities. Our analysis usually demonstrates a value capture adjacent to the edges of the university, and between the University and a downtown core. It is recognized that other factors affect the City's land use options such as the existence of residential neighborhoods and historic resources.

For example, in Gainesville, Florida (Figure 3.2.h), home to the University of Florida and its equally large student population, Urban3's analysis showed the potency of properties directly abutting the edge of the University campus. These housing and mixed-use developments of low to mid-rise heights serving students along the campus edge created as much, and sometimes more, value than downtown buildings, seen further to the right in this image. The 3D model shows the productivity connecting downtown to the campus.

In comparison, the values along A Street and University Avenue in Davis do not come close to meeting or exceeding the values in downtown. It should be noted, that the "height" of the model does not relate to the 'height' of the actual architecture, it is a representation of the relative property tax productivity. In many instances, purple spikes may just be a 3 or 4 story building. Height is relative to value potency of development.

Figure 3.2.h



3D Value Per Acre Model of Gainesville, FL: Note the property value productivity of the area between downtown and the campus is commensurate with the downtown productivity.

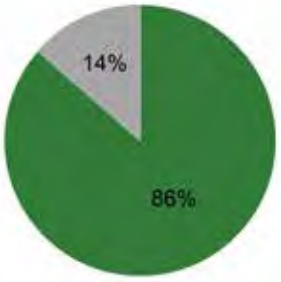
TAXABLE VS. NONTAXABLE

The maps in this section display the distribution of tax-producing land (green) and land that is exempt from property taxes (grey).

In the City of Davis, just 21% of the land is exempt (Figure 3.2j). This figure represents an average tax-exempt fraction of land when measured against comparable towns and cities from Urban3's municipal data archive.

In Downtown Davis (Core Area), the rate of taxable versus non-taxable is even lower, at just 14% of total land (Figure 3.2i). This is low, when gauged against our sample of downtowns across the county. However, there is no magic formula of taxable proportion of land within a downtown core, as most district boundaries tend to be drawn for political or arbitrary reasons, which conflict with the ability to develop a rational analysis. Compared to many downtowns, Davis is fortunate in its amount of taxable land. Many downtowns contain municipal buildings, county buildings, and other non-taxable land uses (as well as private property leased by public agencies and non-profits exempt from paying property tax)vvv.

Some of this exempt land is park land, of which Davis is deservedly proud. Dedicating such land to parks was a vision that was ahead of its time. Protected open space certainly provides a public benefit. Davis has also avoided large scale urban renewal programs seen in many communities which have ravaged downtowns, leaving behind large quantities of non-taxable parcels, usually in the form of surface parking.

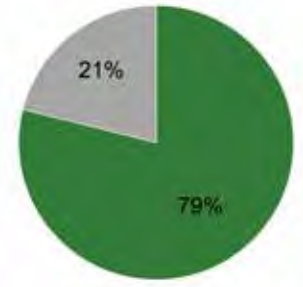


Core Area

Data Source: City of Davis GIS, Yolo County Assessor

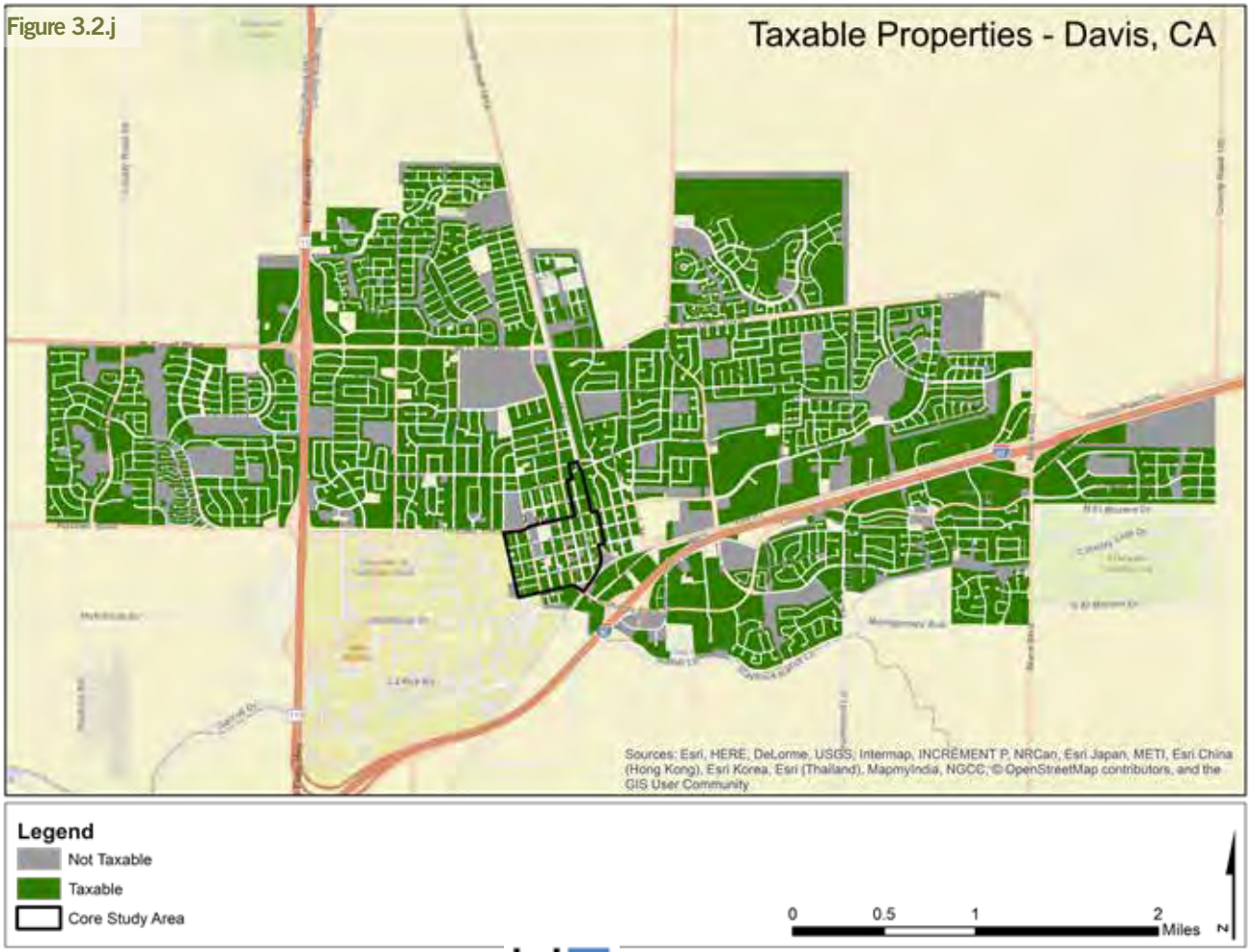
The impact of UC Davis cannot be understated for both the City and Downtown Davis. While the land owned by the University is non-taxable and in the County, the estimated economic value the school brings to the community is astounding. According to a study prepared in March 2016 by Economic & Planning Systems, Inc. for the university, in Fiscal Year 2013-2014, UC Davis had $3.5 billion in expenditures and employed more than 40,000 people (not all UC Davis employees are located in the City of Davis or Yolo County, e.g. employees of UC Davis Medical Center in Sacramento). The spending activities of its over 34,000 students and 3.2 million annual visitors are directly attributed to Davis. These two groups alone are estimated to spend approximately $429 million annually. (Source: UC Davis Economic Impact Analysis; Economic & Planning Systems, March 2016)

The trade-offs inherent in exempt property make it more important to understand the productivity of the land that is left in the 'taxable' base, and the community needs to ensure that the taxable land is as productive as possible.



Citywide

Figure 3.2.j



Data Source: City of Davis GIS, Yolo County Assessor

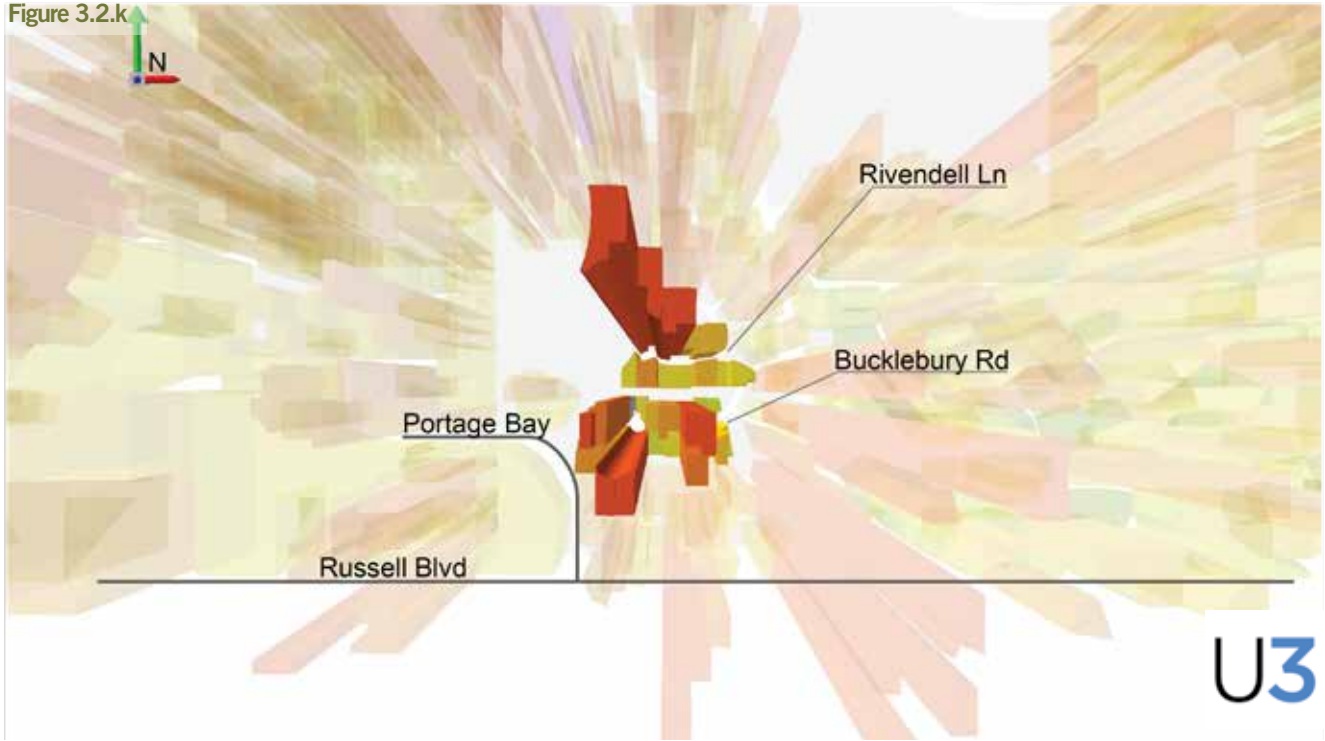
PROPERTY VALUE IMPACT OF PROPOSITION 13

One aspect that significantly impacts the valuation of property tax assessments in the City of Davis and the State of California is Proposition 13. In 1978, the State of California passed legislation to restrict increases in property value reassessments annually. Under Proposition 13, reassessment is limited to less than a 2% annual increase in assessed value, unless a property is sold. If a property changes ownership, its value is assessed at 1% of the sale price.

This policy manifests itself in various ways when visualizing and measuring property tax revenue. Primarily, the longevity of ownership masks the true valuation, and the longer the ownership, the more the discount, which doesn't correlate to current market conditions. Additionally, newly-constructed properties have inflated values relative to many properties previously developed. We see these as 'spikes' in value in the 3D model, so to speak.

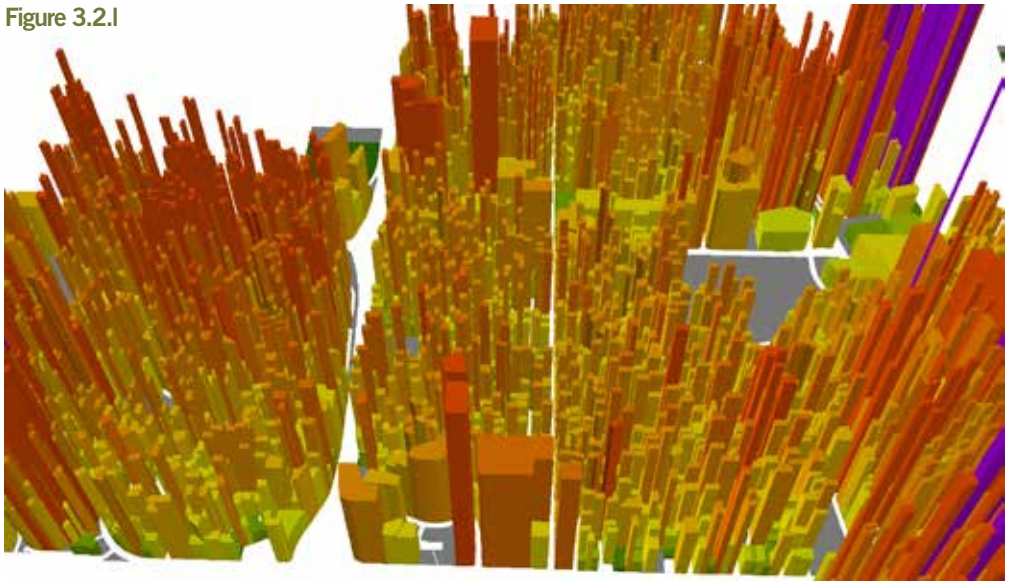
It is especially evident in recent suburban style development along a community's edge. To demonstrate the inconsistency of Prop 13 in modeling, we have included samples from other states that don't have a similar restriction (images on page 3-21). Of note, the patterns of neighborhoods are more consistently "flat" in non-Prop 13 communities. With neighborhood productivity being relatively 'equal' along a block or street. By inspecting an individual block of housing in the CA samples, you will witness tremendous variability in the 3D, which is more a sign of the transaction date, than anything related to actual construction or municipal cost of service. In other words, properties can sit side-by-side and even be the same architecture, but the valuation would be vastly different, and thus, neighbors could have tremendously different tax bills (Figure 3.2k).

Figure 3.2.k



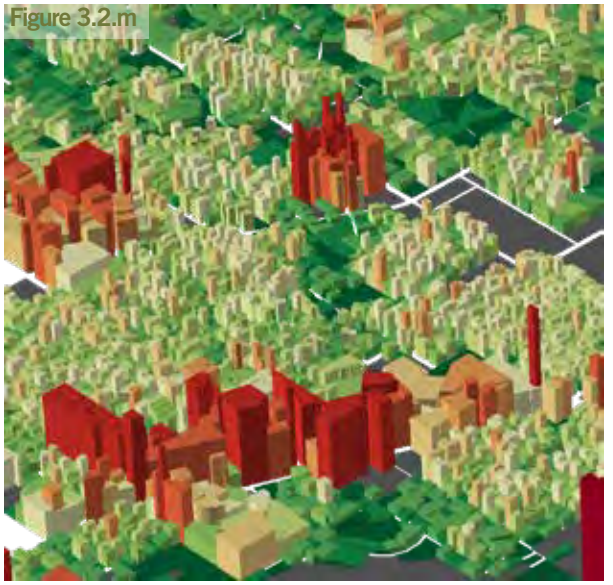
This overhead view of the value per acre of two streets in Davis clearly shows the valuation differences caused by Proposition 13 along one street. These homes are all of similar market value yet their taxable value vary considerably as demonstrated by the "valley" effect of the yellow which drops down considerably. The orange reflects that these properties are recent transactions, and it shows the inflated premium placed on new transactions.

Figure 3.2.l



Davis, CA

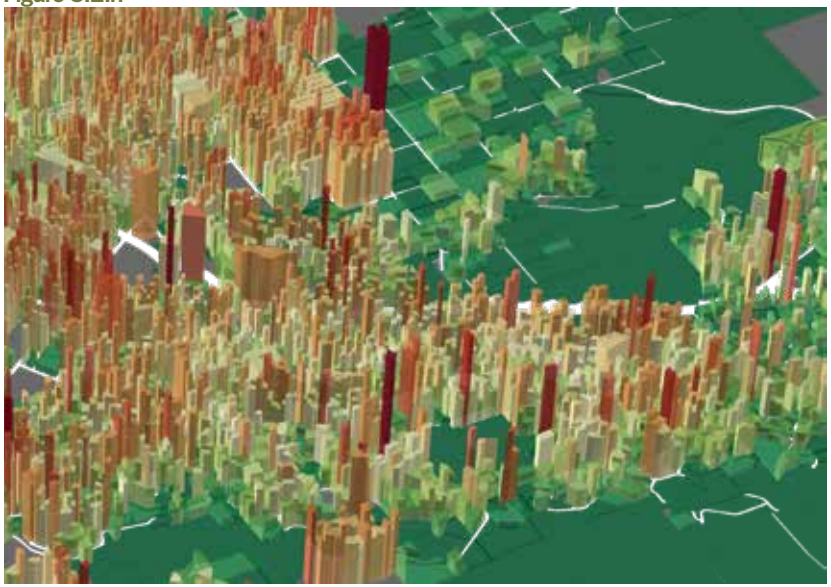
Figure 3.2.m



Gainesville, FL

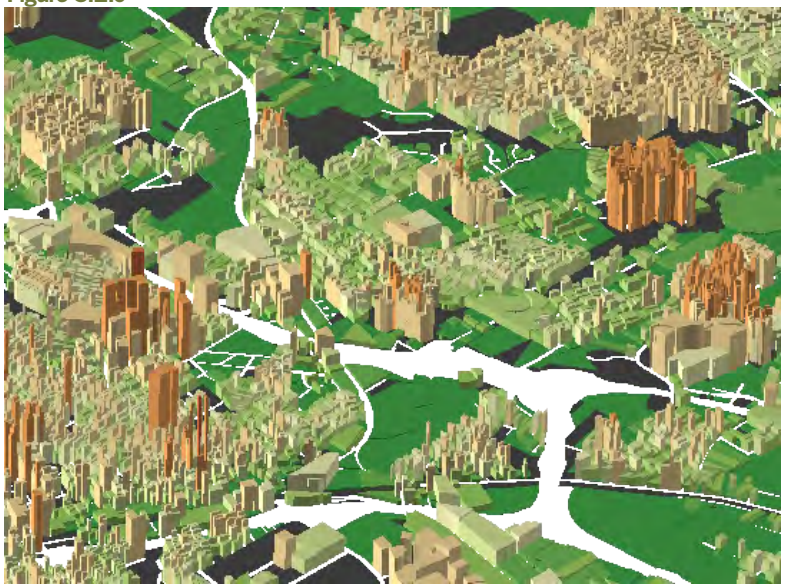
These images show close ups of the value per acre models of Davis (Figure 3.2l) and Santa Rosa (Figure 3.2n). Both cities are subject to the taxable value inconsistences caused by Proposition 13. The effects of this can be seen in these models. The taxable value gives the models a fuzzy appearance. Models of cities which are not affected by laws such as Proposition 13 show more gradual change, such as the examples at right of Gainesville, FL (Figure 3.2m) and Durham, NC (Figure 3.2o).

Figure 3.2.n



Santa Rosa, CA

Figure 3.2.o



Durham, NC

DAVIS DEVELOPMENT TYPES: COMPARATIVE TAXABLE VALUE POTENCY

Part of our initial analysis included selecting a suite of 'typologies' of properties across Davis to examine the varying revenue potencies of downtown properties, big-box retailers, and different types of residential development, among others.

At right (Figure 3.2p-s) you can see that a single-story office building produces $2.2 million in value per acre (Figure 3.2p). That figure doubles with the density of land-use, as seen in the Lexington Apartments, just outside Downtown Davis along Olive Drive (Figure 3.2q). Downtown mixed-use buildings, with retail below and housing above, double the value per acre once more, at and average of $8 million per acre (Figure 3.2r). Furthermore, a mixed-use office and housing development along G Street is off the charts at over $19 million per acre (Figure 3.2s). As communities stack stories and mix uses, they create more fiscal potency, and therefore tax productivity.

Figure 3.2.p

Figure 3.2.q

Figure 3.2.r

Figure 3.2.s

Data Source: City of Davis GIS, Yolo County Assessor

Figure 3.2.t

Target

Total value: $27,414,896
Acres: 13.5659
VPA: $2,020,868

2nd Street Shops

Total value: $5,049,000
Acres: 0.137742
VPA: $36,655,340

BIG BOX COMPARISON

In much the same way economists sometimes use the relative price of Big-Macs to measure purchasing power, we use big box stores like Target as a value per acre benchmark for this style of commercial development. There are a few important reasons for this. Targets are widespread and uniform (with more than 1,800 nationwide, most in the same value range) and typify a common land use pattern (with over half of its footprint dedicated to parking, set back far from the street). Indeed, big box stores do generate a tremendous amount of retail sales, but they come with a form of pattern in their districts, as well as their own land use, which dilute those transactions over a considerable amount of finite land.

The comparative image (Figure 3.2u) illustrates the relative potency for a 2nd Street Shops in downtown versus a local Target. As you can see, 0.75 acres of the 2nd street shops (or 5 of them) would be worth the 13.6 acre Target in property value.

Figure 3.2.u

Data Source: City of Davis GIS, Yolo County Assessor

LAND COVER ANALYSIS

Infrastructure, Parking and Buildings Comparison

The comparative land-use graphic (Figures 3.2v - x) shows the area covered by certain land uses, and how large they would be if they were all aggregated by category. The valuation of real estate dedicated to parking, driveways, and 'non-improved' real estate offer significantly lower "value" than that of buildings and therefore contribute less taxable revenue. However, the cost of infrastructure is consistent and fixed. The 1.7 square miles of Davis' buildings have to generate enough revenue to cover its 2 square mile infrastructure liability.

When this type of analysis is performed on the Downtown (Figures 3.2y-z), the ratios improve. There is still a sizeable quantity of right-of-way area in the Downtown, about 52% of the area of the core is road right-of-way. In simple terms, this is an infrastructure cost to the community. The private real estate carries the burden of tax production to cover that cost, and to which, 41% of the core is buildings and 13% in surface parking and 5% for driveways. However, those land uses differ dramatically in taxable production with the average building taxable value at $132/sf while parking is about $15/sq.ft. Therefore, the average square foot of building is about 9 times more productive than the average parking sq.ft., or parking is 'discounted' within the valuation standards. This is a sizable discount, and should be accounted as the infrastructure cost is uniform.

Compared to other cities in our sample set, Davis has a better ratio of buildings to parking but is still encumbered with a considerable amount of auto-oriented space. Like an x-ray shows the bones of your body, the figure ground images illuminate the parking concentrations and patterns.

Figure 3.2.v

Figure 3.2w

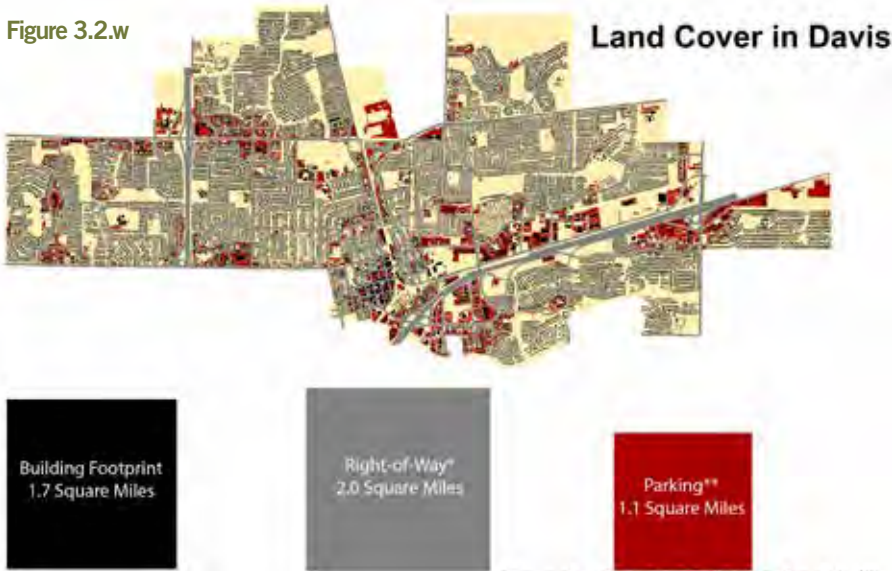


Figure 3.2y

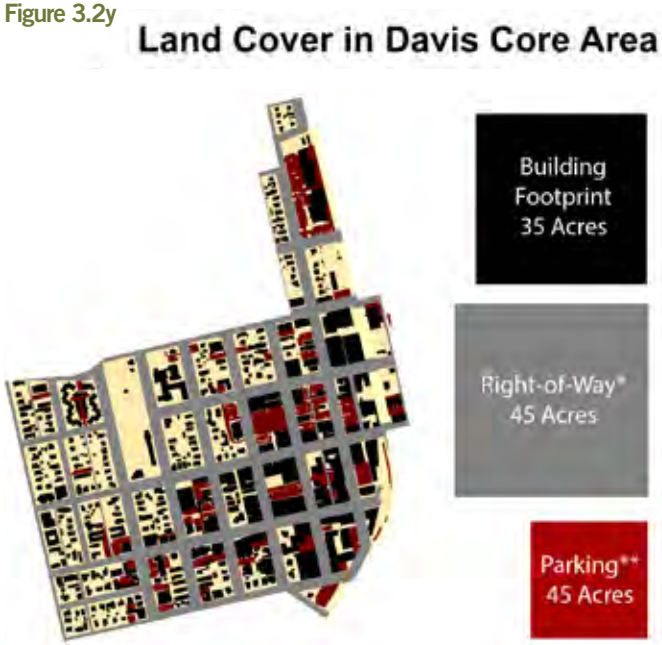


Figure 3.2x

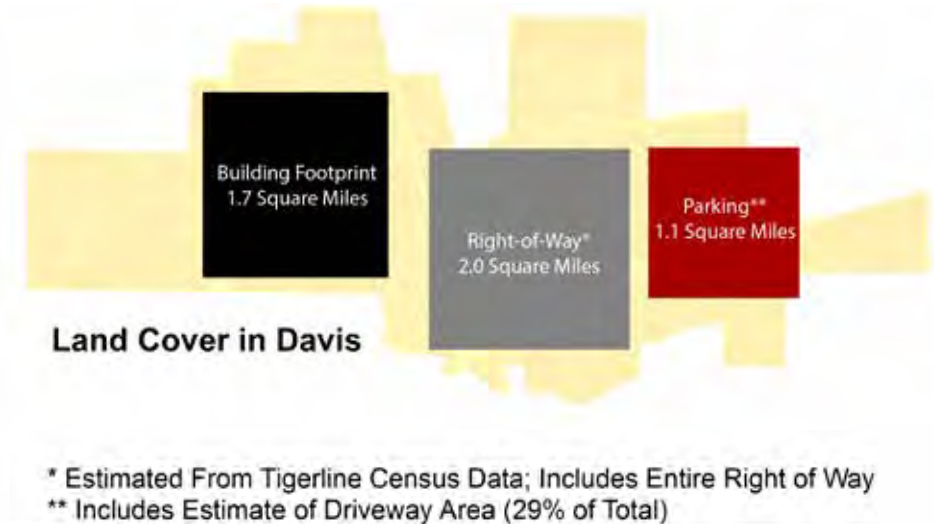


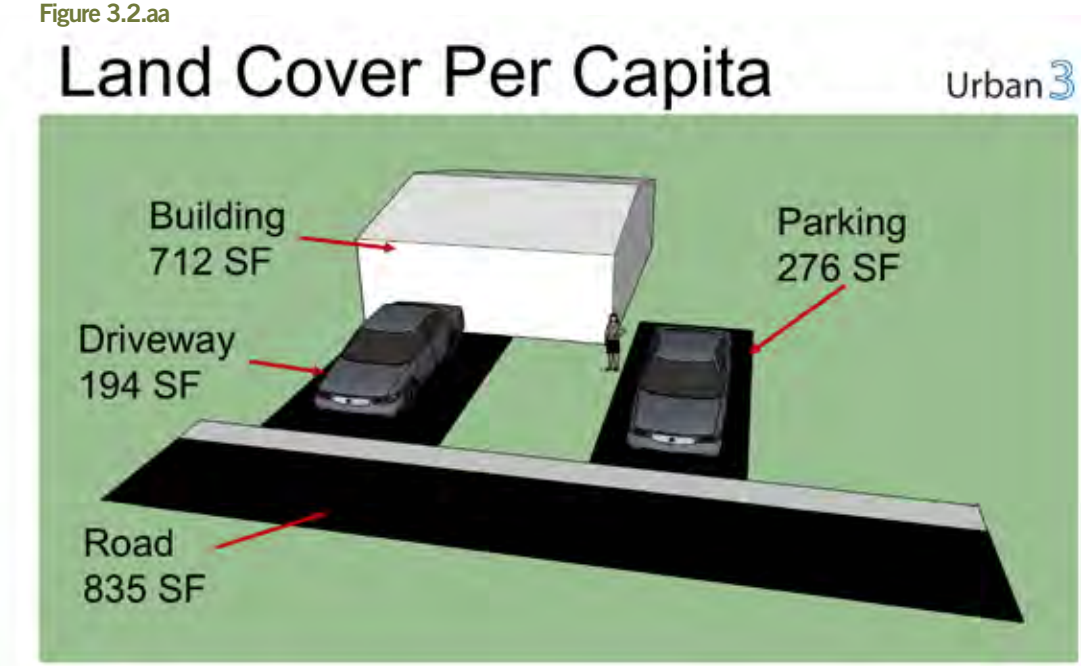
Figure 3.2z

Per Capita Land Cover

The graphic on the right (Figure 3.2aa) depicts the relative space devoted to different forms of paved surface for each person in the City of Davis. On average, there is one parking spot for each person during the day at work, one parking spot at home, and about as much road area as building area. For every 1 square foot of building, there are 1.8 square feet of car space.

This shows the extent to which the development footprint is skewed towards automobiles. Far more land is allocated to accommodating cars than people. Besides the implications for a humane public realm, this suggests some important financial ramifications. Buildings generate vastly more tax revenue than parking and roads generate no taxes, only maintenance and replacement costs. A community's fiscal health can be distilled down to the ratio of building area to road area. Parking, especially free parking, is a subsidized land use that dilutes tax productivity.

Figure 3.2.aa



LAND VALUE ANALYSIS

In addition to analyzing the combined building and land value as a 'total value per acre' analysis, Urban3 conducted an analysis isolating the value of the land alone with no buildings or improvements. Urban3 has found that land valuation analysis is a primary indicator of value return within the market, as it removes the variability of improved value of the building. It is relatively clear from the modeling that walkable and mixed-use districts are returning more valuation in their property, as noted by the precipitous drop in value in the auto-centric land patterns as compared to the more urbanized locations. However, due to the suppression effects of Prop 13, market distortions may occur which mask true valuation. Additional data is necessary to properly normalize the Prop 13 conditions by discerning the data based on transaction dates. The distortion is most clear when new transactions are isolated within the model. It is easy to see the effects in the image with the land value per acre in Downtown (see the 3D model on page 3-22). The disproportionately high spikes are representative of the transactional effect of a blend of influences from Prop 13 to market potential.

In addition to property tax production, retail maps and models (this and following page) were run to measure productivity on a per acre basis. The district boundaries were drawn per state standards, which protects the confidentiality of individual businesses, but still gives a sense of the type of revenue production based upon location in the city and downtown. As shown in the 3D models, the quadrants in downtown bound by 1st street and 3rd street to the north and south, and H street and D street to the east and west are by far the most productive in sales tax generation across the city. With over 50 restaurants, cafes and bars, and over 50 retailers, service providers and other businesses, this area creates enormous value in the form of sales tax revenues.

Figure 3.2.ab

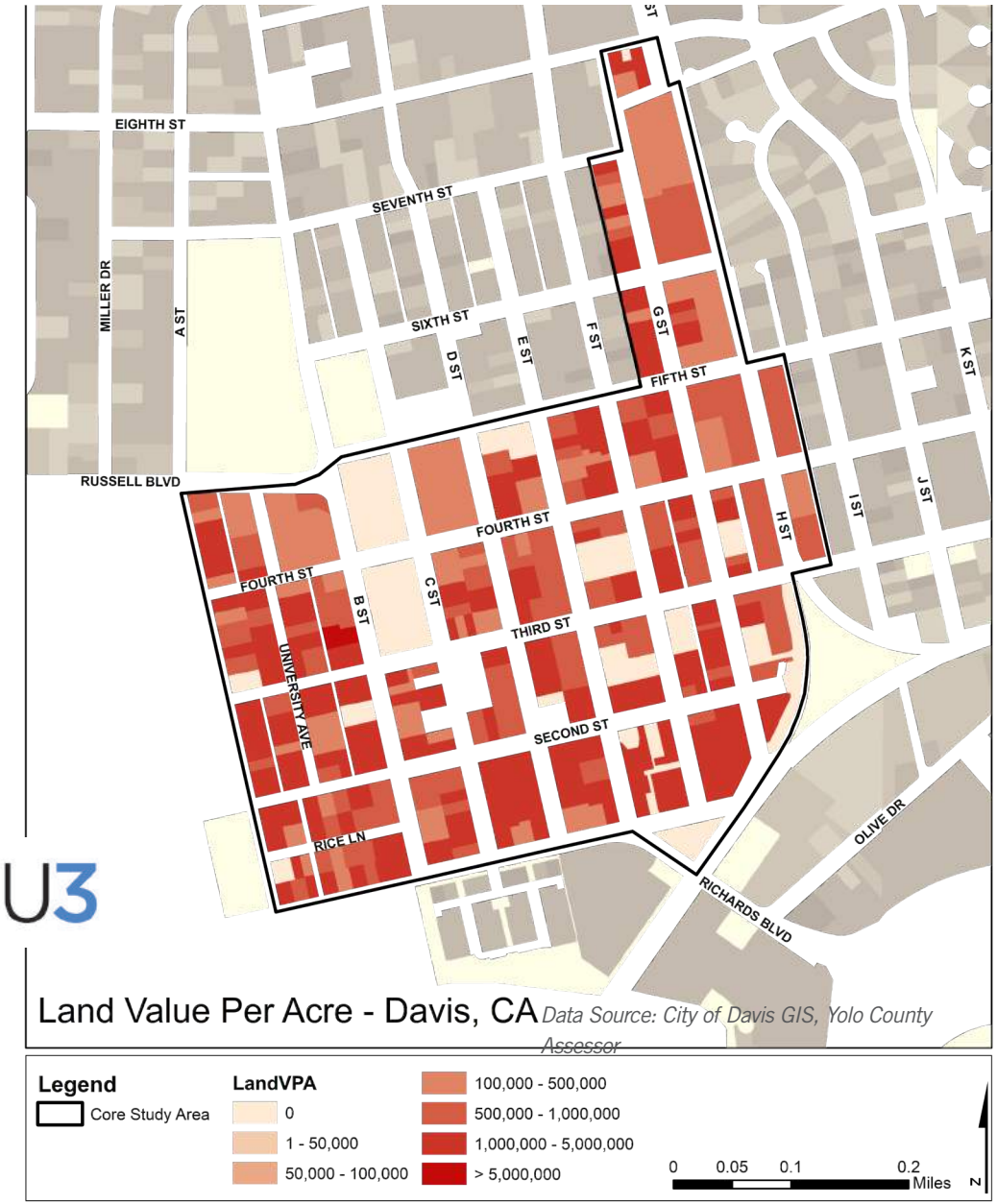


Figure 3.2.ac

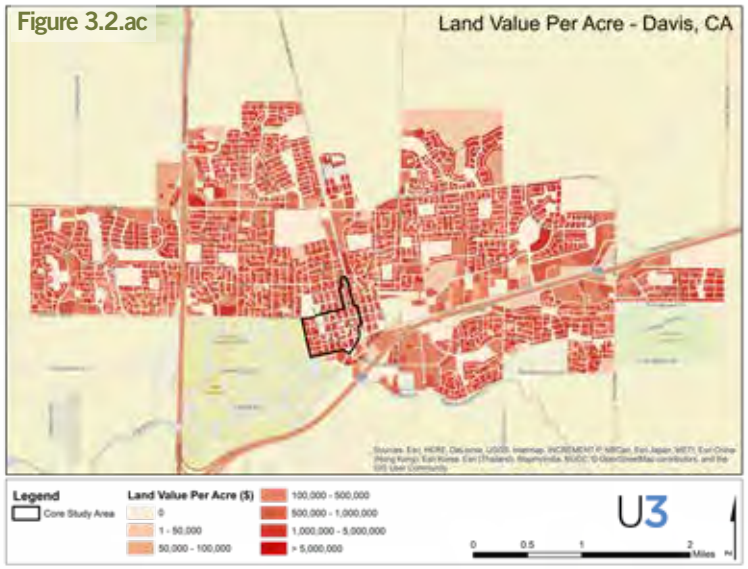


Figure 3.2.ad

Total Value Model of Davis as a 3D Model

Figure 3.2.ae

Data Source: City of Davis GIS, Yolo County Assessor

Total Value Model of Davis as a 3D Model - Isolating Downtown

THE LASTING VALUE OF PLACE

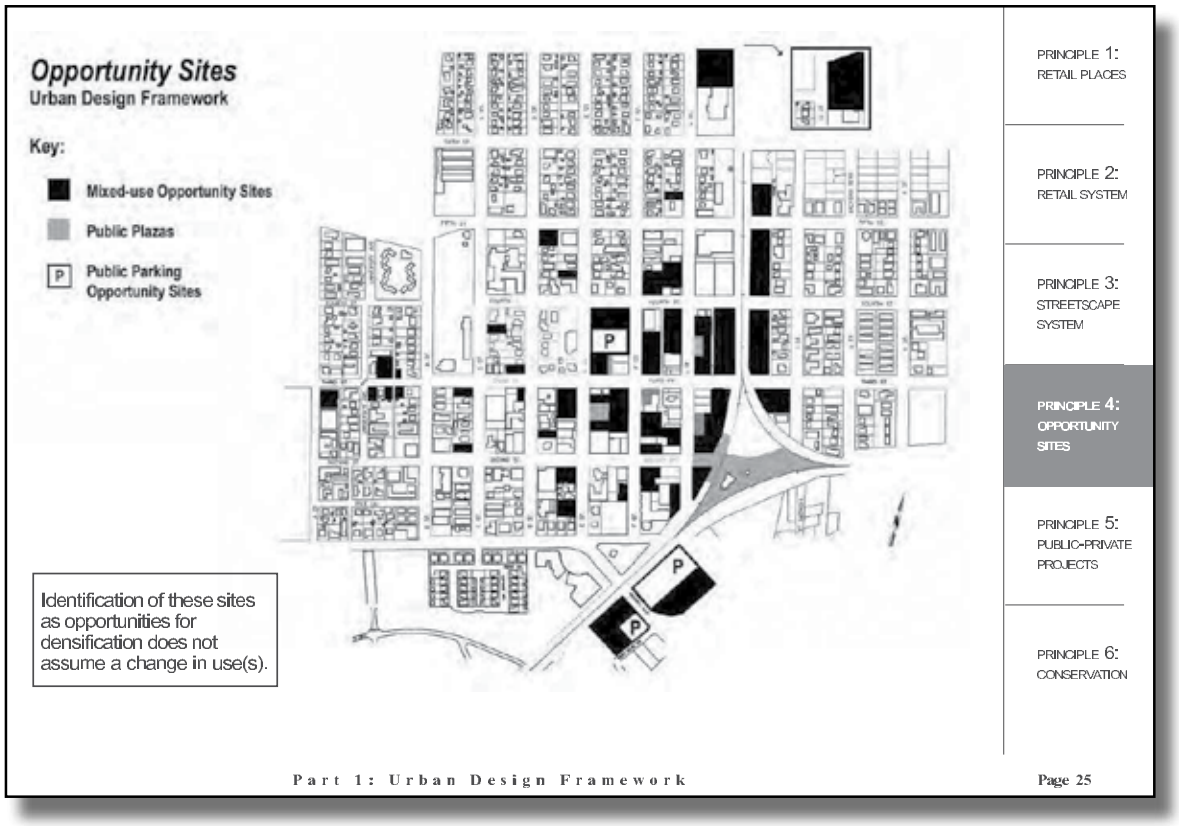
Architectural design and heritage are clearly important to Davis, and important in this analysis. Indeed, density of a site is a driver of value productivity, but so is the architecture. Every effort of creating value in architecture should be considered, whether when constructing new buildings or preserving existing structures.

These two buildings along G Street are good representations of the value of old and new (this and next page). The building on the left, which was constructed just after the turn of the last century, is potent at a Value Per Acre of $11,918,040 , and has been delivering this taxable value to the community for over 80 years. And it will continue producing for generations. These buildings were not built with a short term mindset, and the value reflects it. However, the two-story building on the right side of the historic photograph was torn down, yet in its place is a three-story building with incredibly potent value, at $20,123,430 value per acre.

What the data tell us through these maps, comparisons, and visualizations is that place matters. We're used to hearing that old mantra: "location. location. location." But location only describes a part of the bigger issue of place. Design is the element over which we have control.

Design includes building features like façade dimensions and architectural style, but it also includes things like the layout of streets and open space and the pedestrian environment. Care and attention in architectural design and value should be considered in all buildings in Davis to build character and continued value for future generations of Davis residents.

Figure 3.2.af



Source: City of Davis Core Area Specific Plan, Adopted November 1996

3.3 Chapter Summary of Findings

The housing market is strong, but there are limited opportunities for large-scale infill projects in the Downtown area.

Demand for housing in Davis is driven by two factors: first, the student population, and second by the overall housing shortage across the Bay Area region and statewide. The Core Area Specific Plan was adopted in 2007, just as the great recession was about to unfold. Mixed-use Opportunity Sites identified should be re-examined to determine if any of those areas could be used to accomplish affordable housing goals.

In recent years, the regional housing economy has returned to full strength, driving one of the strongest residential markets in the country. This economic shift, combined with the changing preferences of some consumers for walkable downtown living, represents an important opportunity for infill and redevelopment in Davis. Although Downtown has experienced little new development in recent years, these changes have already began to be reflected in changing demographics and rising prices among existing single family, condos and townhomes.

While preserving Davis' heritage is important, identifying key attributes of human-centered places can serve as a starting point for a conversation about design. When paired with an understanding of how different types of construction have different economic impacts, design guidelines can serve as a critical tool for building lasting value consistent with the community's ethos (Figure 3.2p-s). What we learned about development patterns is those traditional mixed-use urban neighborhoods are not only centers of identity and culture, but also they pay massive dividends in wealth for the rest of the community. Creating a framework for developing or redeveloping well-designed, taller infill buildings will help the community towards its goals of equity, affordability and environmental stewardship. Additionally, this type of development will create more long term value and a financially stable community.

From a land use perspective, Downtown Davis, and indeed city-wide, is nearly fully built out.

In comparison to many American cities, Downtown Davis has little in the way of massive surface parking lots and vacant buildings awaiting redevelopment (Figure 3.2y-z). This blessing can also be a curse as the City looks to provide more housing, and attract new businesses to the area.

Downtown Davis is the most financially productive area of the City.

Putting aside conflicting valuation policies inherent to Prop 13; at a base level Downtown Davis is productive, averaging $3.8M of value per acre. By contrast, within that same area, surface parking is averaging about $663k of value per acre. If a shared parking strategy were developed, and those surface lots were converted to buildings, a simple rule would be a 600% gain in value for those 15 acres of parking. And that's for the "average" square foot value, which is about one-fifth the peak value in Downtown. The simple fact to take from this idea is that surface parking is subsidized within the valuation formulas. It is a subsidy, not as a public act of policy decision at a local level, but as a standard of practice within property valuation. Parking is needed, however the way it is designed on the land has tremendous effects on municipal coffers, as the infrastructure cost is a burden per linear foot of frontage, and cost is blind to the associated land-use, and ultimately is a burden on the entire tax base. The measurements of these land-uses should be considered as well as the fiscal costs of infrastructure, and priority should be given to investments that match community aspirations rather than subsidize those that work to the detriment of community goals.

Additionally, the sales tax data analysis makes clear the financial impact of the cluster of restaurants, retail and services in the area bound by 1st and 3rd Streets to the North and South, and H and D Streets to the East and West (Figure 3.1a-f).

There is a vast opportunity to partner with the University to leverage economic development for the downtown area and beyond.

Significant challenges to new development remain and ongoing public sector involvement will be necessary to attract new development. Public/private partnerships with the University could play a key role in developing new housing and employment opportunities. Davis' challenges to new development include a lack of larger available parcels for infill, historic designation, and rising development costs. The City could work with the University to create a strategy to acquire key parcels as they become available, with the hopes of creating development sites for workforce and student housing over the next ten years. Focusing economic development and building redevelopment efforts along the most economically potent corridors will create the most long term value for municipal revenues; those can then be leveraged to increase quality of life amenities for residents, both existing and future.

Living and working in Downtown Davis is currently an untenable option for a majority of residents and workers.

There are numerous policies that end up working against each other, and have unintended consequences to Core Area. It is clear from the data, that like Davis proper, the Downtown "imports" the majority of its workers and exports most of its labor force as well (Figure 1.1x). There are more people leaving Downtown to work in San Francisco than to UC Davis. That fact alone should be enough to give pause to Davis residents. It is doubtful that this was the intention of the community, but it is the reality of today's market. Those that can afford the location will push out those that cannot afford the location. In doing so, that brings about economic conditions that externalize other costs, namely transportation and impacts on the environment as a result.

Transportation 4 chapter

Author: Fehr & Peers

4.1 Introduction and Planning Context

A MOBILITY PLAN FOR DOWNTOWN DAVIS

The Downtown Davis (Core Area) Plan details the future vision for the vibrant cultural, recreational, and economic center of the Davis community. Alongside planned land use patterns and adopted urban design guidelines, the transportation component of the Plan will play a considerable role in shaping the built environment of Downtown Davis. Travel to and from Downtown Davis marks the beginning and end of a person's Downtown experience, establishing vital first and last impressions of Downtown Davis. Moreover, convenient access to Downtown restaurants, shops, and services is important not only for regular daily errands and activities, but also for the livelihood of Downtown businesses. As such, a well-connected and effective multimodal transportation network is an essential component of the overall Downtown Davis experience for residents, employees, visitors, and businesses alike.

PLANNING TIMELINE

The City of Davis has a long history of planning for transportation systems dating back to the first citywide General Plan in 1973, the first Bicycle Program Plan in 1977, and the first Core Area Plan in 1961. Over the years, transportation planning in Davis has evolved to respond to changing travel conditions and emerging trends in transportation policy and technology. The plans and studies described below include some of the more recent large-scale transportation planning efforts that have informed the development of transportation systems in and around Downtown Davis.

DOWNTOWN PARKING MANAGEMENT PLAN

Created by the Downtown Parking Task Force formed in 2012, the Downtown Parking Management Plan identifies strategies for optimizing City parking resources in Downtown Davis. The plan included nineteen prioritized recommendations, ranging from improving parking enforcement technology to establishing paid parking in targeted areas within downtown.

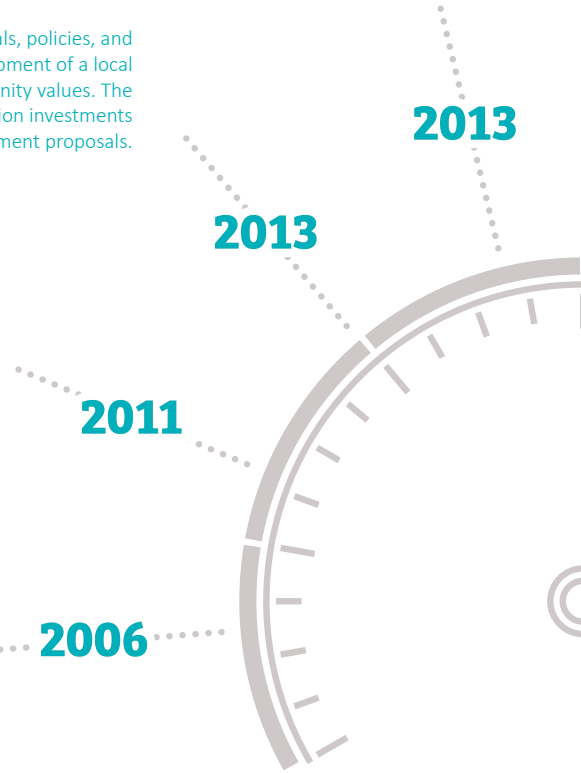
The General Plan Transportation Element identifies the City's goals, policies, and objectives used to guide the operations, maintenance, and development of a local transportation system that is consistent with Davis' unique community values. The content of the Transportation Element is used to inform transportation investments during planning processes, including local development proposals.

THIRD STREET STREETSCAPE MASTER PLAN

The plan identified phased streetscape enhancements to bolster Third Street between A Street and B Street as a signature linkage between the UC Davis campus and Downtown Davis. The improvements were informed by the 'Third Street Parade' design concept recommended in the original 1961 Core Area Plan, which included placemaking and mobility design elements that prioritized the use of the roadway as a communal public space rather than a space for exclusive use by automobiles.

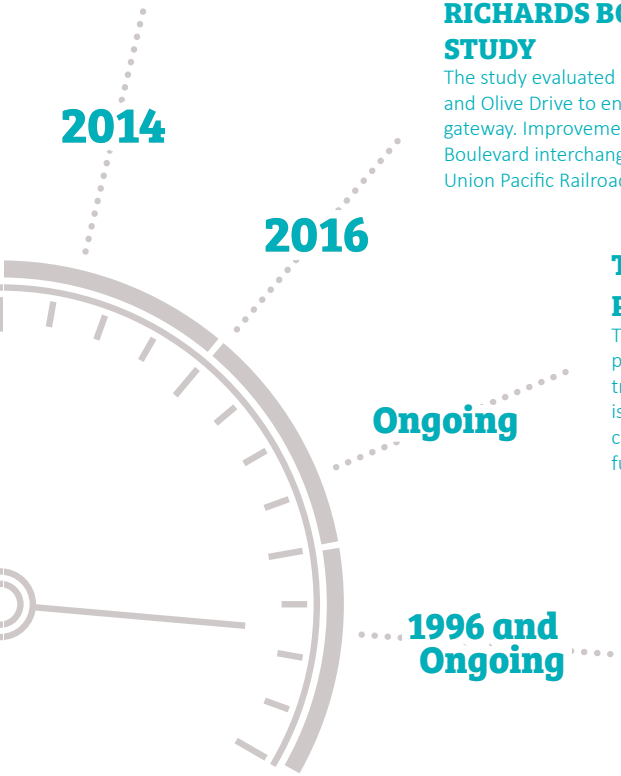
DOWNTOWN CONNECTIONS CONCEPTS AND IMPLEMENTATION PLAN

The plan was a collaborative effort between UC Davis and the City of Davis to improve the physical connections between the Gateway District, the Quad District, and Downtown Davis in order to create a unified arts, entertainment, and cultural destination. Recommended improvements included First Street and Old Davis Road bicycle facility upgrades, Third Street pedestrian enhancements, and an expanded special event shuttle system.



BEYOND PLATINUM BICYCLE ACTION PLAN

Guided by the "5 E's" outlined by the League of American Bicyclists – engineering, education, encouragement, enforcement, and evaluation and planning – the Beyond Platinum plan recommends strategies to further establish the use of the bicycle as a safe, attractive, and comfortable means of transportation for people of all ages and abilities, with the goal of earning the first Diamond Level Bicycle Friendly Community designation in the country.



RICHARDS BOULEVARD/OLIVE DRIVE CORRIDOR STUDY

The study evaluated potential transportation improvements along Richards Boulevard and Olive Drive to enhance circulation and connectivity at this critical Downtown Davis gateway. Improvement projects included the enhanced Interstate 80/Richards Boulevard interchange and grade separated bicycle and pedestrian facilities across the Union Pacific Railroad tracks currently separating the study area from Downtown Davis.

TRANSPORTATION IMPLEMENTATION PLAN

The Transportation Implementation Plan is a five-year strategic planning document that assembles, organizes, and prioritizes transportation projects from various City documents. The plan is a nimble document that is updated annually to reflect changes in transportation projects, shifting priorities, and funding availability.

CORE AREA SPECIFIC PLAN

Planning for the Davis Core Area (synonymous with Downtown Davis) has occurred since the early 1960s in an effort to establish a deliberative planning process to support the development of the Core Area. The first iteration of the modern Core Area Specific Plan, adopted in 1996, included numerous goals and objectives related to multimodal circulation and streetscape that strive to preserve the pedestrian-friendly environment in Downtown Davis.

The land use and traffic plan from the 1961 Core Area Plan.

Source: Livingston and Blayney City and Regional Planners.

REGIONAL TRANSPORTATION CONTEXT

Davis is in southeast Yolo County, approximately 70 miles northeast of San Francisco, 15 miles west of Sacramento, and 95 miles west of Lake Tahoe. Davis is located at the juncture of Interstate 80 and State Route 113, providing regional vehicular access from the San Francisco Bay Area to the west, Woodland to the north, and the Sacramento region and the Sierra Nevada to the east. While Interstate 5 does not traverse through Davis, connections to the major north-south freeway are available nearby in Sacramento and Woodland.

Regional access to and from Davis is also provided via intercity rail service available at the Davis Train Depot, including the Capitol Corridor, the Coast Starlight, and the California Zephyr.

COMMUTING AND INFRASTRUCTURE

CITYWIDE COMMUTING TRENDS

	2010		2016
Drive Alone	57.6%	↘	52.3%
Carpool	8.2%	↘	7.9%
Public Transportation	7.3%	↘	6.5%
Walk	3.8%	↗	4.7%
Bike	18.9%	↗	22.2%
Telecommute/Other	4.2%	↗	6.4%

DOWNTOWN TRANSPORTATION INFRASTRUCTURE

6 miles
Miles of Roadway

5 miles
Miles of Bicycle Facilities

11 miles
Miles of Pedestrian Pathways

1,730 spaces
Bike Parking Supply

LOCAL COMMUTE CONTEXT

The following data summarizes the current state of commuting and transportation infrastructure characteristics across the City of Davis and within Downtown.

IMAGING THE DOWNTOWN TRANSPORTATION NETWORK

The 'imaging' of the built environment entails identifying signature features that define a neighborhood or city. Imaging elements include physical characteristics such as paths, edges, and landmarks that individuals commonly associate with a place. Imaging elements are often used as the components of a 'mental map' that an individual forms while experiencing or recalling a place. As such, places with more clearly defined imaging elements typically are more easily understood and recognizable to both first-time and repeat users.

Downtown Davis has well-defined edges around its boundaries that clearly demarcate Downtown from adjacent neighborhoods (see Figure 4.1.a). Railroad tracks form a hard edge near the eastern boundary of Downtown, with a series of at-grade crossings representing gateways to and from East Davis and beyond. Fifth Street, B Street, and First Street serve as edges between Downtown and Old North Davis, UC Davis, and the Richards Drive/Olive Drive area, respectively.

Primary vehicular gateways surround the periphery of Downtown, the most recognizable being the Richards Boulevard tunnel. This historic subway provides grade-separated access underneath the Union Pacific Railroad tracks and into Downtown from Interstate 80 and South Davis.

The historic Davis Train Depot is the primary transit gateway into Downtown. Situated at the end of Second Street, all Downtown visitors arriving by train enter through the Second Street and G Street intersection.

While bicyclists and pedestrians enter the Downtown area from all directions, two locations serve as primary gateways for major active transportation trip generators. The Third Street and B Street intersection channelizes high volumes of bicyclists and pedestrians traveling between Downtown and the UC Davis campus. The connection to the citywide bicycle network along Putah Creek and the Arboretum Trail south of First Street also serves as a major gateway for UC Davis bicyclists, as well as bicyclists accessing Downtown from South Davis.

The image of the Downtown transportation network will continually evolve as the City and region grow, new transportation trends and technologies emerge, and travel behavior changes. Long-term physical changes to the transportation network, including the potential relocation of the north-south railroad tracks from the Downtown area, would also have future implications for the image of the Downtown transportation network.

The predecessor to Interstate 80 was the historic U.S. Route 40, also known as the Lincoln Highway. Locally, the original Lincoln Highway alignment ran along Olive Drive, through the Richards Boulevard tunnel, west on First Street, north on B Street, and west on Russell Boulevard towards the Bay Area. While Interstate 80 now carries the majority of through traffic east-west through Davis, this local routing is still a well-established corridor through Downtown, carrying high volumes of traffic destined for locations throughout Davis. Signage placed along the roadside highlights the historic route for passers-by.

Figure 4.1.a: Transportation Network Imaging

WHAT YOU SEE ON THIS MAP

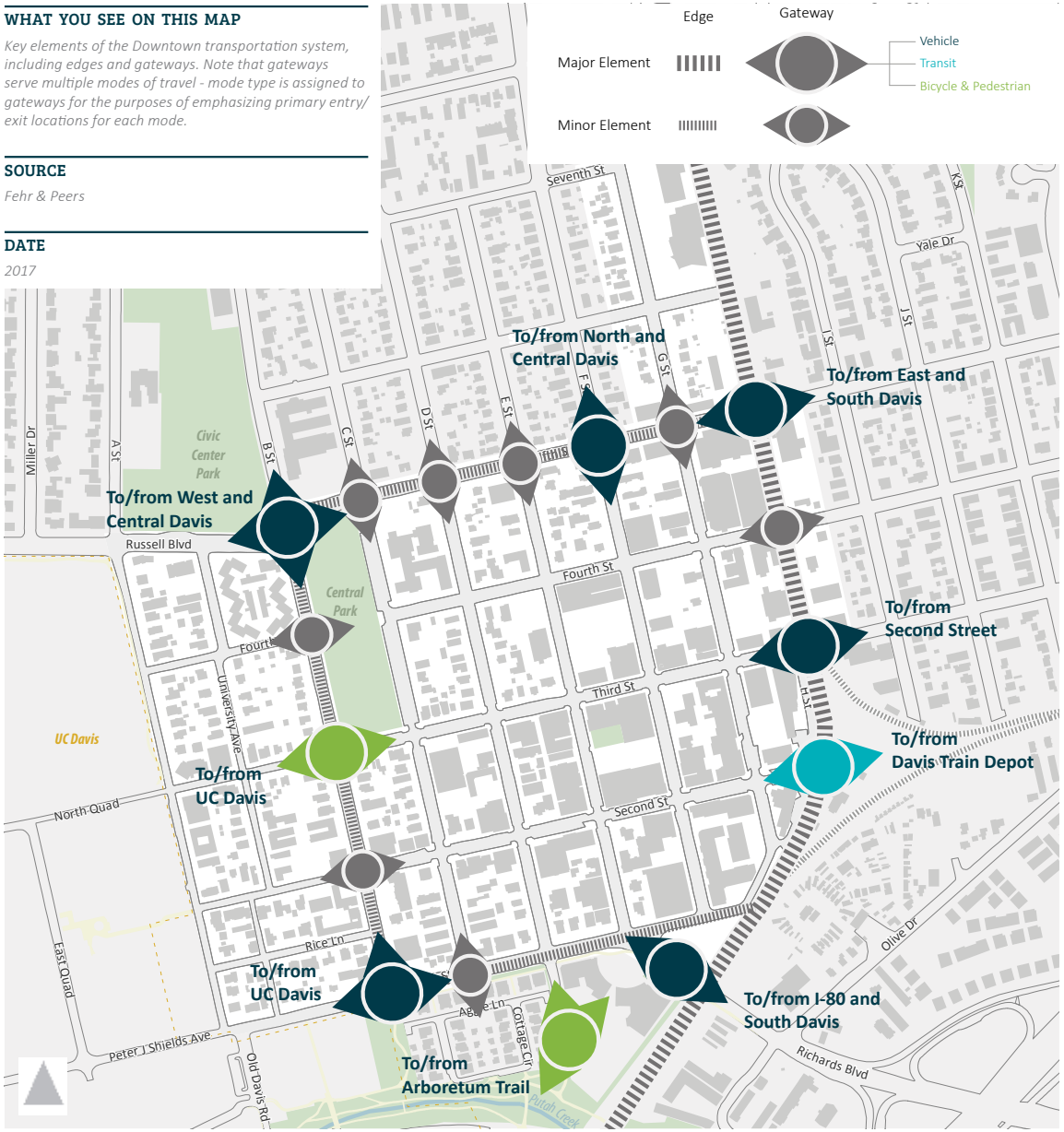
Key elements of the Downtown transportation system, including edges and gateways. Note that gateways serve multiple modes of travel - mode type is assigned to gateways for the purposes of emphasizing primary entry/ exit locations for each mode.

SOURCE

Fehr & Peers

DATE

2017



DOWNTOWN TRANSPORTATION IN PICTURES


27
STOP
ALL WAY

4.2 Roadway Network

Downtown Davis is served by an extensive system of local and regional roadways. Within Downtown, the roadway system is a grid-based network of lettered north-south streets and numbered east-west streets. Downtown blocks are 240 feet by 400 feet with roadway widths ranging from 50 feet to 80 feet. Downtown roadways serve a variety of users, including people traveling by foot, bike, bus, and vehicle, as well as delivery trucks serving Downtown businesses. This multi modal roadway network proves to be a dynamic, and often challenging, operating environment for users of all types.

EXISTING ROADWAY NETWORK

The City of Davis organizes local roadways using a hierarchical system, whereby individual roadways are classified by their intended function within the overall roadway system (see Figure 4.2.a). These classifications – arterials, minor arterials, collectors, and local streets and alleys – define the desired functional and operational characteristics of a roadway, such as traffic volume capacity and level of service. Within Downtown Davis, several arterials serve as the primary vehicle routes in and out of Downtown, including Richards Boulevard, First Street, B Street, Russell Boulevard/ Fifth Street, and F Street. In addition to providing access to Downtown, the Richards Boulevard-First Street-B Street-Russell Boulevard corridor also serves as a major through route for vehicles traveling to UC Davis and other Davis neighborhoods. Designated trucks routes are identified for trucks in excess of three tons of gross vehicle weight. In the Downtown area, designated truck routes generally coincide with arterial streets, such as Richards Boulevard, First Street, Third Street, B Street, and Russell Boulevard/ Fifth Street. Trucks making deliveries to Downtown businesses are permitted to detour from the designated truck routes to access loading areas.

Downtown roadways are controlled by a variety of traffic control devices. Most intersections internal to Downtown are controlled by all-way stop signs, consistent with the low-speed and walkable nature of the Downtown grid. Traffic signals are present along arterials surrounding the edge of the Downtown area to facilitate higher volumes of traffic flow at major intersections. Generally, roadways within the Downtown area have a posted 25 MPH speed limit.

Regional travel to and from Downtown is provided by Interstate 80 and State Route 113, both facilities that are owned, operated, and maintained by Caltrans. Interstate 80 is a freeway that extends from the San Francisco Bay Area east though Davis towards Sacramento and the Sierra Nevada. Within the vicinity of Downtown Davis, Interstate 80 is three to four lanes in each direction and carries approximately 132,000 vehicles per day. State Route 113 is a north-south state highway that runs north from Interstate 80, through Davis, and towards Woodland and destinations beyond along the Interstate 5 corridor. Local access to the regional freeway network is available at the Interstate 80 interchange at Russell Boulevard and the State Route 113 interchange at Russell Boulevard.

Figure 4.2.a: Roadway Facilities

WHAT YOU SEE ON THIS MAP

Roadway classification and traffic control devices within the Downtown Davis area.

SOURCE

City of Davis

DATE

2017

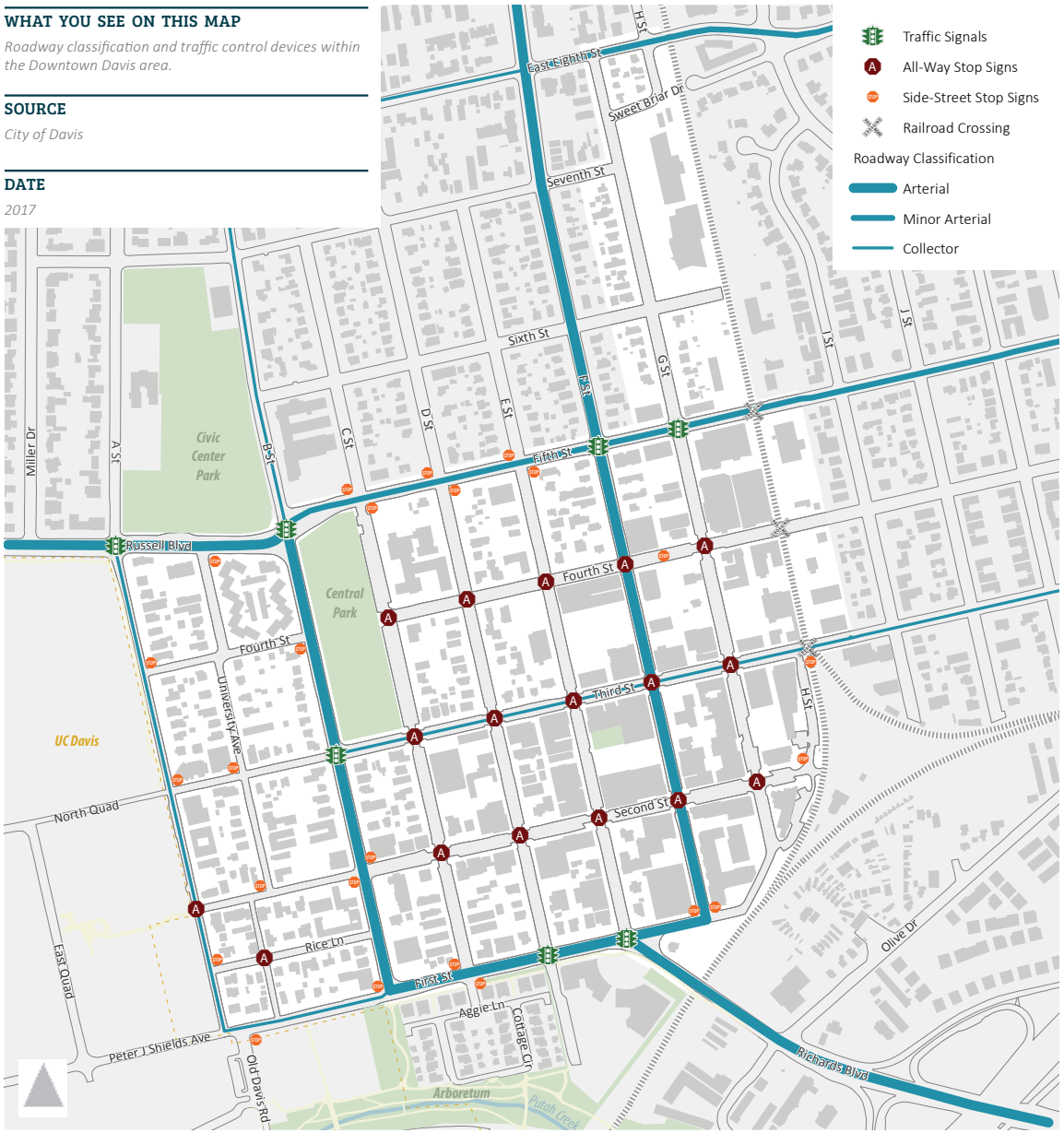


Figure 4.2.b: Existing Automobile Volumes

WHAT YOU SEE BELOW

Daily, morning peak hour, and afternoon peak hour auto traffic counts at key roadway segment locations surrounding Downtown Davis. Peak hours are defined as the single busiest hour during the morning (7 to 9 AM) and afternoon (4 to 6 PM) peak periods.

SOURCES

City of Davis; Fehr & Peers

DATES

2016 - 2017

LEGEND

- *AM*
- *PM*
- *Daily*

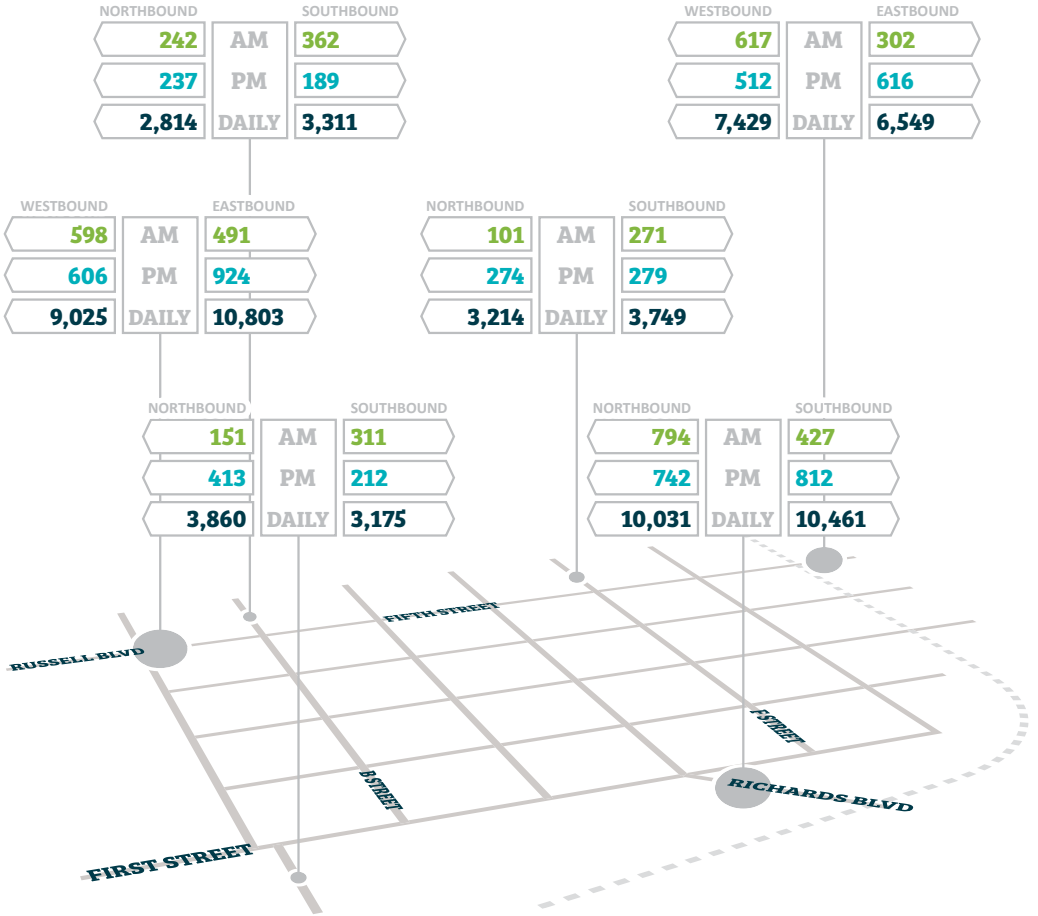


Figure 4.2.c: Injury Collisions

WHAT YOU SEE ON THIS MAP

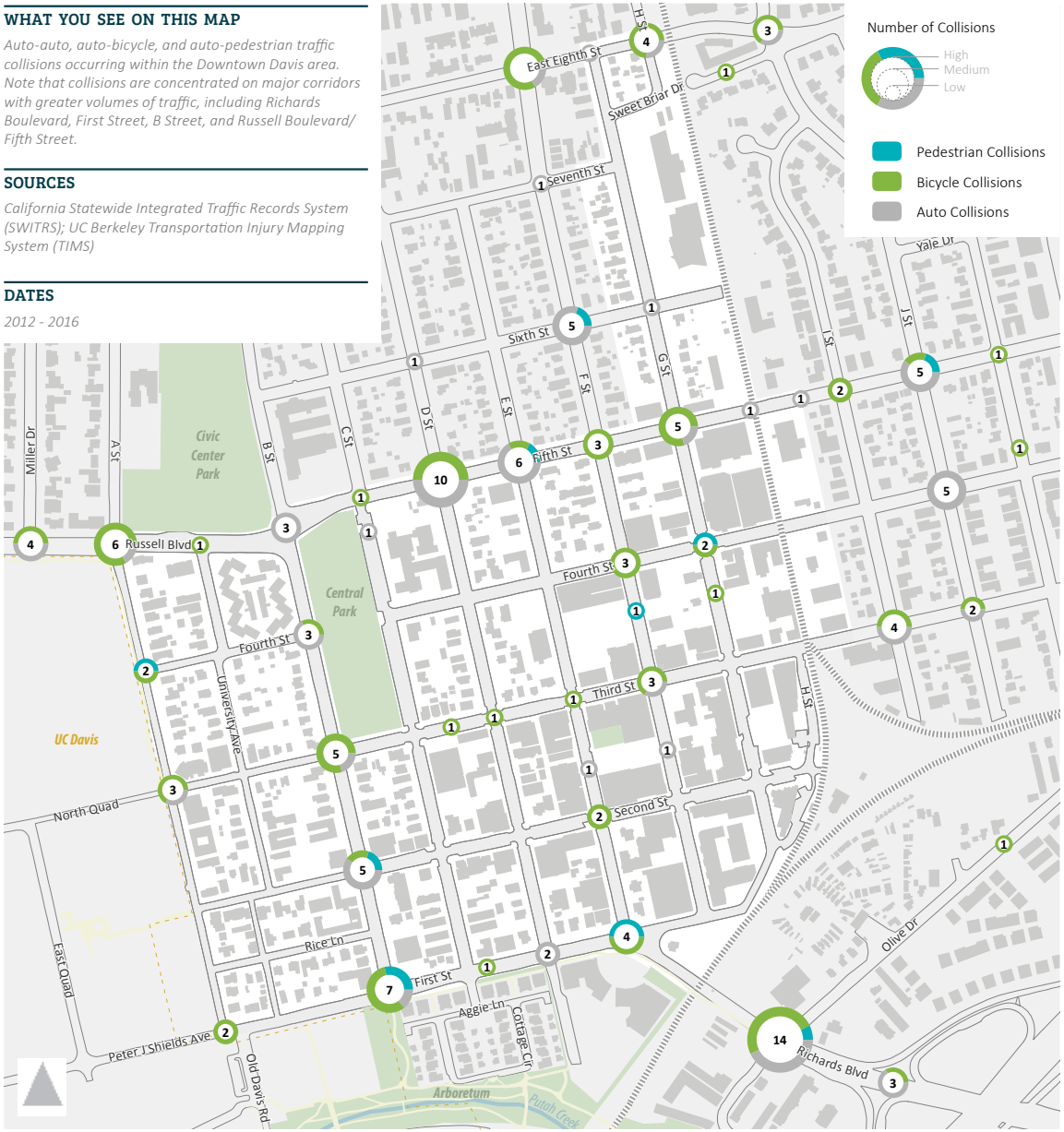
Auto-auto, auto-bicycle, and auto-pedestrian traffic collisions occurring within the Downtown Davis area. Note that collisions are concentrated on major corridors with greater volumes of traffic, including Richards Boulevard, First Street, B Street, and Russell Boulevard/ Fifth Street.

SOURCES

California Statewide Integrated Traffic Records System (SWITRS); UC Berkeley Transportation Injury Mapping System (TIMS)

DATES

2012 - 2016



4.3 Pedestrian Network

Downtown Davis is strongly defined by its highly walkable and pedestrian-friendly streets. The pedestrian experience is an important part of the overall Downtown environment, since every Downtown visitor is a pedestrian for at least some portion of their trip. In addition to basic pedestrian facilities such as sidewalks and crosswalks, traffic control devices present within the Downtown area slow automobile traffic and deter through traffic in order to preserve a comfortable pedestrian environment.

EXISTING PEDESTRIAN NETWORK

Sidewalks or shared-use paths are generally present along all streets within Downtown Davis (see Figure 4.3.a). A few exceptions exist, such as the west side of H Street between Second and Third Streets, the south side of First Street east of E Street, and the north side of Richards Boulevard between First Street and Olive Drive. In addition to sidewalks, off-street pedestrian pathways are scattered throughout the Downtown area, enabling pedestrians to walk through blocks rather than around blocks. Together, this network of pedestrian pathways enables a high degree of permeability throughout the Downtown built environment.

Marked crosswalks facilitate pedestrian crossings at most Downtown intersections. Generally, marked crosswalks are present on all legs of signalized or all-way stop controlled intersections, while some side-street stop controlled intersections – including Fifth Street/C Street, B Street Fourth Street, and First Street/C Street – are missing crosswalks on one or more legs. The City has recently installed enhanced pedestrian crossing features at intersections where higher vehicle volumes

Figure 4.3.a: Pedestrian Facilities

WHAT YOU SEE ON THIS MAP

Existing sidewalks, pathways, and crosswalks within the Downtown Davis area. Also included are morning and afternoon peak hour pedestrian crossing volumes for select intersections within Downtown.

SOURCE

Fehr & Peers

DATE

2017

create a difficult crossing environment. Downtown also features several midblock crosswalks in active pedestrian areas, such as E Street, F Street, and G Street between Second Street and Third Street.

Downtown locations with high volumes of foot traffic generally coincide with concentrations of attractions, or along routes that link activity centers. For example, the concentration of restaurants and bars in the southeast quadrant of Downtown (e.g., along the G Street corridor) experiences surges in pedestrian activity during the lunchtime and evening hours. Similarly, Central Park and the surrounding pedestrian network accommodates thousands of users during the Saturday morning Farmer's Market and Wednesday evening Picnic in the Park during the summer months. The Third Street corridor, which provides a natural linkage between Downtown and the UC Davis campus core, is among the more well-traveled east-west pedestrian routes in Downtown.

The Downtown Davis pedestrian realm features amenities that foster the prolonged use of the streetscape by Downtown visitors. Street furniture (e.g., benches), landscaping, and outdoor dining areas foster a comfortable pedestrian environment where people are encouraged to linger, socialize, and meander on Downtown streets. The recent installation of parklets and on-street dining spaces on Downtown streets have further expanded the pedestrian realm, as roadway space previously allocated to vehicles is now reserved for exclusive use by pedestrians.

QUALITY OF THE PEDESTRIAN NETWORK

Various factors influence pedestrian comfort on sidewalks and paths. Pedestrian StreetScore+ is a measure of pedestrian comfort developed using parameters and best practice guidance provided by the National Association of City Transportation Officials (NACTO) Urban Street Design Guide. Factors influencing StreetScore+ include:

- Sidewalk width
- Sidewalk quality
- Frequency of driveway curb cuts
- Presence of landscape buffer and street trees
- Number of travel lanes on the street
- Prevailing speed on the street
- Lighting along the sidewalk

Pedestrian StreetScore+ is represented using a 1 to 4 scale, with 1 being the most comfortable and 4 being the least comfortable or impossible:

- StreetScore+ 1: Highly comfortable, pedestrian-friendly, and easily navigable for pedestrians of all ages and abilities, including seniors or school-aged children walking unaccompanied to school. These streets provide an ideal 'pedestrian-friendly' environment
- StreetScore+ 2: Generally comfortable for many pedestrians, but parents may not feel comfortable with children walking alone. Seniors may have concerns about the walking environment and take more caution. These streets may be part of a 'pedestrian-friendly' environment where it intersects with a more auto-oriented roadway or other environmental constraints.
- StreetScore+ 3: Walking is uncomfortable but possible. Minimum sidewalk and crossing facilities may be present, but barriers are present that make the walking experience uninviting and uncomfortable.
- StreetScore+ 4: Walking is a barrier and is very uncomfortable or even impossible. Streets have limited or no accommodation for pedestrians and are inhospitable and possibly unsafe environment for pedestrians.

The pedestrian StreetScore+ results are presented for all Downtown sidewalks on the following pages (see Figure 4.3.f). Overall, the StreetScore+ results reinforce the perception of Downtown Davis as a highly walkable urban environment, with all roadway segments where sidewalks are present being considered either 'generally comfortable' or 'highly comfortable' from a pedestrian standpoint. Key factors that contribute to these results include the presence of sidewalks, narrow roadways, and generally low traffic speeds common throughout the Downtown roadway network.

Individual components of StreetScore+ help to provide further details regarding the condition of the Downtown pedestrian environment:

- Sidewalk width is indicative of the physical space allocated to pedestrians while utilizing a pathway (see Figure 4.3.b). The majority of the Downtown area features sidewalks that are four or five feet wide, while wider sidewalks of six feet or more are located almost exclusively in the southeast quadrant where the greatest concentration of activity generators are located. Five feet is considered the minimum threshold for sidewalks that enable two pedestrians to comfortably pass each other or walk side-by-side, indicating that a significant portion of the Downtown pedestrian network is not conducive to use by large groups of pedestrians. Some factors that affect sidewalk width include the presence of outdoor dining, signage, and landscaping maintenance.
- Sidewalk quality refers to the physical condition of the sidewalk with regards to cracks, paving, and surface quality (see Figure 4.3.e). Most Downtown sidewalks are of generally good quality, except in locations with older sidewalk infrastructure such as Old North Davis, Fifth Street, and the University Avenue neighborhood.
- Sidewalk access refers to the frequency of curb cuts, driveways, and other physical elements that introduce potential conflicts with vehicles within the pedestrian realm (see Figure 4.3.c). Most of the Downtown area features fairly limited sidewalk interruptions, except along roadways with numerous driveway curb cuts serving off-street parking areas, including E Street, F Street, and G Street north of Third Street.
- Sidewalk lighting refers to the presence of street lighting that maintains adequate visibility for pedestrians during the nighttime hours (see Figure 4.3.d). Most of the southern half of Downtown is well-lit, while older portions of the study area (particularly areas with expansive tree canopies such as Old North Davis and the University Avenue neighborhood) feature less than adequate lighting for pedestrians.

The pedestrian network characteristics described above are particularly important for individuals with disabilities or mobility impairments. Maintaining a high quality pedestrian network, including the presence of ADA-compliant curb ramps, midblock crossings, and alleyway access, is an important component of providing a universally accessible Downtown for pedestrians of all abilities.

Figure 4.3.b: Sidewalk Width

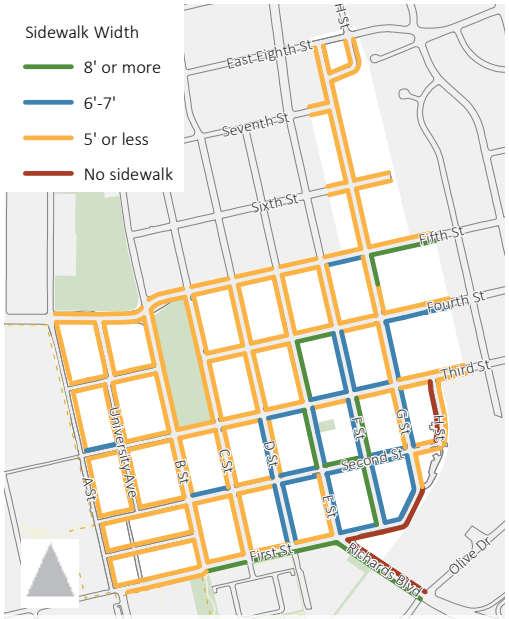


Figure 4.3.c: Access

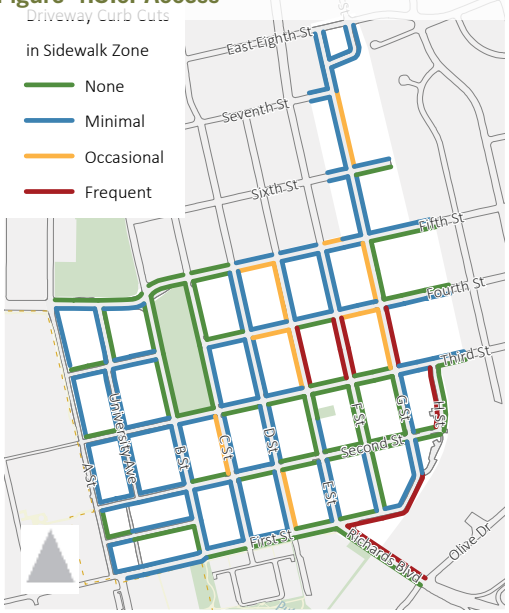


Figure 4.3.d: Lighting

Figure 4.3.e: Sidewalk Quality

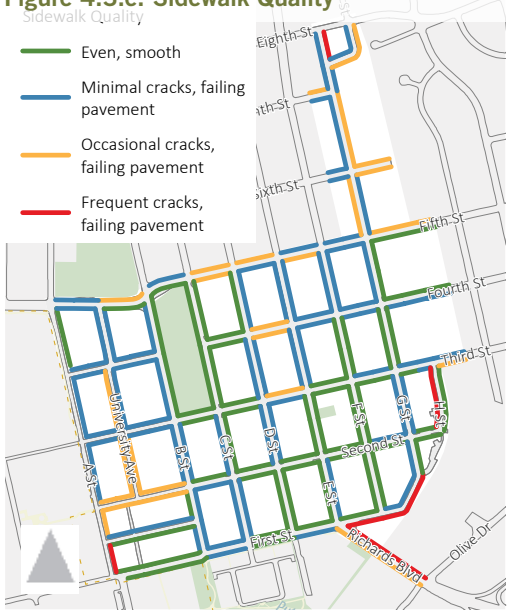


Figure 4.3.f: Streetscore+ Results for Downtown

WHAT YOU SEE ON THIS MAP

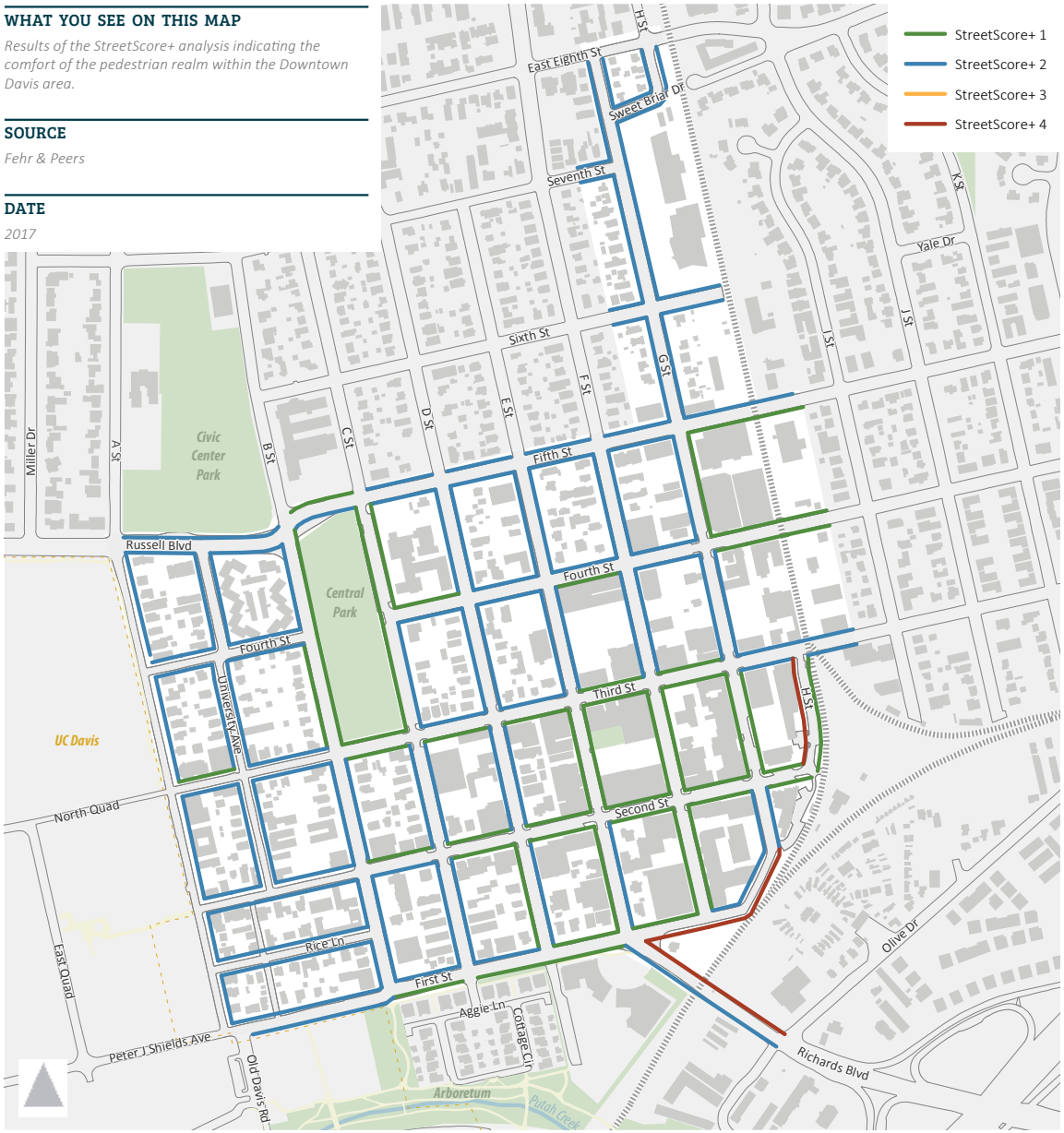
Results of the StreetScore+ analysis indicating the comfort of the pedestrian realm within the Downtown Davis area.

SOURCE

Fehr & Peers

DATE

2017



4.4 Bicycle Network

Davis is broadly regarded as one of the preeminent American bicycling communities. Several noteworthy American bicycling 'firsts' occurred in Davis, including the first on-street bike lane on Eighth Street, the first protected intersection at the Covell Boulevard and J Street intersection, and the first bike-only traffic signals. Davis' long-standing commitment to bicycling as a viable mode of transportation earned the City recognition from the League of American Bicyclists as the first-ever Platinum Level Bicycle Friendly Community. The extensive bicycle network in and around Downtown Davis is reflective of the City's investments in bicycle infrastructure.

EXISTING BICYCLE NETWORK

Downtown Davis (Core Area) features a variety of bicycle facility types that cater to users of all ages and abilities. Caltrans recognizes four classifications of bicycle facilities (see Figure 4.4.a):

- Class I – A Class I facility, commonly referred to as a Bikeway or Bike Path, is a facility separated from automobile traffic for the exclusive use of bicyclists. Class I facilities can be designed to accommodate other modes of transportation, including pedestrians and equestrians, in which case they are referred to as shared use paths.

- Class II – Class II facilities, commonly referred to as Bike Lanes, are dedicated facilities for bicyclists immediately adjacent to automobile traffic. Class II facilities are identified with striping, pavement markings, and signage.

- Class III – Class III facilities, commonly referred to as Bike Routes, are on-street routes where bicyclists and automobiles share the road. They are identified with pavement markings and signage, and are typically assigned to low-volume and/or low-speed streets.

- Class IV – Class IV facilities, commonly referred to as Protected Bike Lanes or Cycle Tracks, are a facility that combines elements of Class I and Class II facilities. They offer an exclusive bicycle route immediately adjacent to a roadway similar to a Class II facility, but provide a physical separation from traffic with plastic delineators, raised curb, or parked automobiles.

BICYCLE FACILITY TYPES

CLASS I - BIKE PATH

CLASS II - BIKE LANE

CLASS III - BIKE ROUTE

CLASS IV - CYCLE TRACK

BICYCLE STORAGE EQUIPMENT

BIKE RACKS

BIKE LOCKERS

Bicyclists traveling to Downtown utilize a series of on- and off-street bicycle facilities to access the Downtown grid. Bicyclists traveling from the west, including the UC Davis campus, can utilize Class I paths along Russell Boulevard, North Quad, and the Arboretum Trail, as well as Class II bike lanes on Fifth Street and Peter J. Shields Avenue. Bicycle connections from the north, including Central and North Davis, include Class II bike lanes on B Street, F Street, and J Street. Bicycle connections from the east include Class II bike lanes on Third Street, Fifth Street, and Eighth Street. Bicyclists traveling from South Davis can utilize the Class I Arboretum Trail, the Class II bike lane on Fifth Street, or the Class I/Class II facility through the Richards Boulevard tunnel.

Through Downtown, bicycle facilities are limited to Class II bike lanes on Third Street, Fifth Street, B Street, and F Street and the combined Class I (eastbound) and Class III (westbound) facility on First Street. Third Street, in particular, serves as the primary bicycle corridor between Downtown and the UC Davis campus core. Elsewhere within Downtown, bicyclists mix with general traffic.

In Downtown, bikes can be stored in one of 1,730 bicycle parking spaces. Most bicycle parking in Downtown Davis is intended for short-term use (e.g., bike racks), however, some long-term bike lockers are provided at the Davis Train Depot for all-day or overnight use. The greatest concentrations of bicycle storage are found in the eastern portion of Downtown, closest to restaurants, shops, and theaters (see Figure 4.4.b). Public bicycle parking is limited in portions of Downtown with a greater emphasis on residential land uses. Recently, the City has invested in converting on-street vehicle parking spaces to high capacity bike parking corrals.

Figure 4.4.a : Bicycle Facilities

WHAT YOU SEE ON THIS MAP

Existing bicycle facilities within the Downtown Davis area. Also included are morning and afternoon peak hour bicycle crossing volumes for select intersections within Downtown.

SOURCE

Fehr & Peers

DATE

2017

Figure 4.4.b: Bicycle Parking

WHAT YOU SEE ON THIS MAP

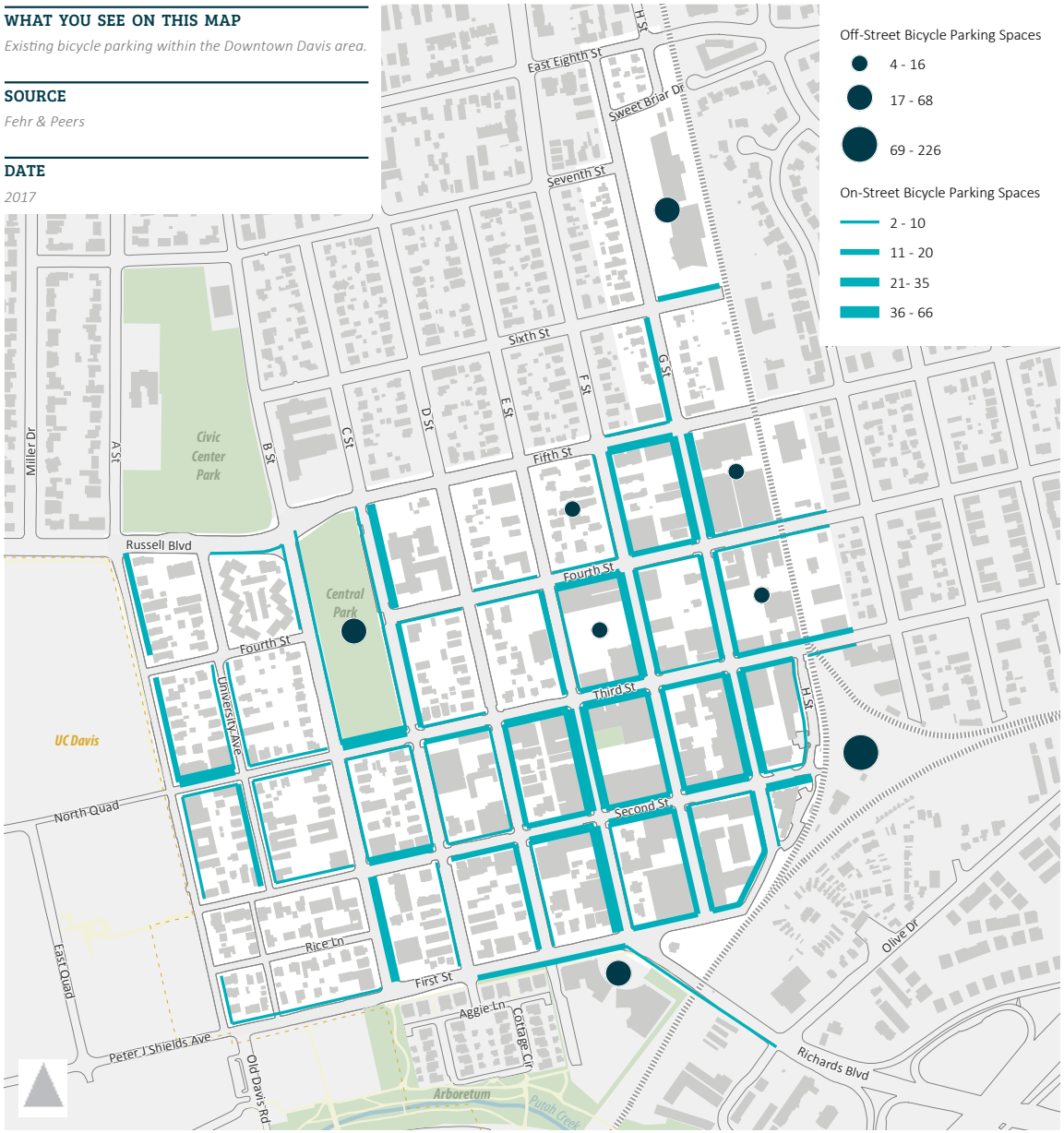
Existing bicycle parking within the Downtown Davis area.

SOURCE

Fehr & Peers

DATE

2017



QUALITY OF THE BICYCLING ENVIRONMENT

Bicycle level of traffic stress (LTS) refers to the comfort associated with roadways, or the mental ease people experience riding on them. Metrics for bicycling LTS were developed at the Mineta Transportation Institute (MTI) and published in the report "Low-Stress Bicycling and Network Connectivity."

Factors influencing LTS include:

- Number of travel lanes
- Speed of traffic
- Presence of bike lanes
- Presence of on-street parking
- Width of bike lanes
- Presence of physical barrier

Bicycle riders vary in experience, skill, ability, and confidence. Different bicycle riders are correlated with a level of "traffic stress" they are willing to experience while cycling. Bicycle LTS criteria span from 1 to 4, with 1 being the least stressful and 4 being the most stressful:

- LTS 1: Most children and elderly riders can tolerate this level of stress and feel safe and comfortable; bicyclists typically require more separation from traffic.
- LTS 2: This is the highest level of stress that the mainstream adult population will tolerate while still feeling safe.
- LTS 3: Bicyclists who are considered "enthused and confident" but still prefer having their own dedicated space for riding will tolerate this level of stress and feel safe while bicycling.
- LTS 4: For bicyclists, this is tolerated only by those characterized as "strong and fearless," which comprises a small percentage of the population. These roadways have high speed limits, multiple travel lanes, limited or nonexistent bike lanes and signage, and large distances to cross at intersections.

The LTS metric does not account for angled on-street parking, which can affect the ability for reversing vehicles to see oncoming bicyclists. As such, Downtown locations with angled parking are identified separately

The majority of Downtown is considered either 'highly comfortable' or 'generally comfortable' according to the LTS metric (see Figure 4.4.c). Contributing factors include the presence of bike lanes, minimal number of travel lanes, low vehicle speeds, and the on-street parking on roadways throughout the Downtown area.

Due to its role as an active mixed-use district, Downtown roadways serve a variety of functions ranging from multimodal circulation to support activities for local businesses. Regularly recurring conditions including delivery vehicle loading and unloading, dwelling buses, and refuse collection can influence the Downtown bicycling environment beyond criteria quantified in the LTS metric.

Figure 4.4.c: Bicycle Level of Traffic Stress (LTS)

WHAT YOU SEE ON THIS MAP

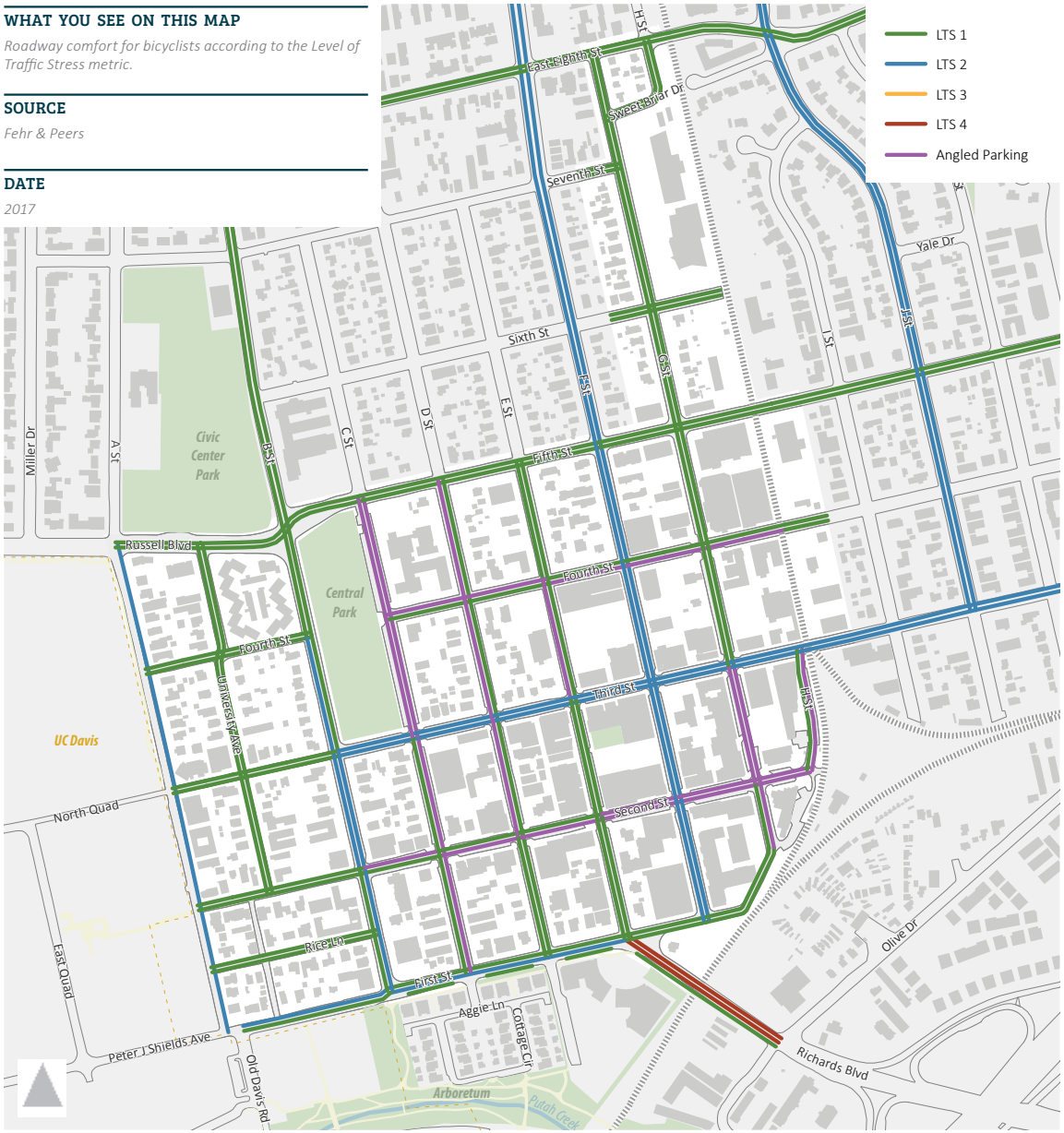
Roadway comfort for bicyclists according to the Level of Traffic Stress metric.

SOURCE

Fehr & Peers

DATE

2017



4.5 Transit Network

Downtown Davis is served by several transit service types, ranging from fixed route bus to passenger rail. Buses operate on multiple Downtown roadways, connecting Downtown Davis with surrounding Davis neighborhoods, the UC Davis campus, and communities beyond the city limits. Passenger rail service is ingrained in the early origins of Davis, as its first settlement in the modern era was as a depot for the Southern Pacific Railroad. Defining elements of the City's identity include the historic Davis Train Depot, the Union Pacific Railroad and California Northern Railroad lines that bisect the City, and the multitudes of passenger and freight rail services that operate along them.

EXISTING TRANSIT NETWORK

Local Bus Service

Unitrans is the primary fixed route bus service provider within Downtown Davis. Jointly operated by UC Davis and the City of Davis, Unitrans provides local fixed route bus service between Downtown Davis, the UC Davis campus, and residential neighborhoods throughout the City of Davis.

Within Downtown, Unitrans primarily operates on Russell Boulevard/ Fifth Street, B Street, F Street, First Street, and Richards Boulevard (see Figure 4.5.a). Russell Boulevard and First Street are the primary alignments for routes serving both Downtown and the UC Davis campus.

Unitrans routes connecting passengers to the Davis Train Depot utilize Second Street through Downtown Davis. Within the Downtown area, the Richards Boulevard tunnel prohibits the use of Unitrans double-decker buses from operating on routes destined for South Davis.

While the Downtown area is served by a significant amount of Unitrans buses, only half of all Unitrans trips actually travel through the core Downtown area (see Figure 4.5.c). This can be partly attributed to the bus travel time delay incurred due to the numerous all-way stops and high pedestrian volumes within the core Downtown area. As such, some Unitrans passengers must walk to bus stops on the edge of Downtown – on Russell Boulevard, B Street, and First Street – in order to catch their desired route.

Figure 4.5.a: Transit Service

WHAT YOU SEE ON THIS MAP

Existing transit service and facilities within the Downtown Davis area.

SOURCES

City of Davis; Unitrans; Yolobus

DATE

2017

Unitrans operates a regular weekday schedule Monday through Thursday to coincide with UC Davis class schedules, with limited service spans and frequencies on Fridays and weekends (see Figure 4.5.b). Unitrans operates on a limited Summer schedule while UC Davis and local schools are not in session. Unitrans rides are free for UC Davis students and a standard $1.00 fare for regular riders.

Unitrans is supplemented by Davis Community Transit, the primary ADA service provider within the City of Davis. Davis Community Transit provides door-to-door subscription transit service to eligible riders.

Regional Bus Service

Yolobus, operated by the Yolo County Transportation District, provides intercity and commuter bus service throughout Yolo County and downtown Sacramento. Within Downtown Davis, Yolobus service includes peak-only commuter bus service to Woodland and downtown Sacramento and all-day Route 42A/42B service to Woodland, Sacramento International Airport, West Sacramento, and downtown Sacramento.

Yolobus service within the Downtown area is concentrated on F Street, Russell Boulevard/Fifth Street, B Street, and First Street. Nearly all Yolobus routes operating in the area utilize the Richards Boulevard tunnel to enter and exit the Downtown area.

Bus Stop Facilities

Bus passengers access Unitrans and Yolobus services at a variety of bus stops distributed throughout the Downtown area. Passenger amenities provided at bus stops vary depending on the number of routes and level of ridership activity at each individual location. More heavily utilized bus stops – including the Davis Train Depot stop near the H Street and Second Street intersection and the Third Street and E Street stop – are equipped with shelters, benches, and trash receptacles. Generally, other Downtown area bus stops with lower levels of ridership activity feature a bus stop flag sign and minimal other amenities. See Figure 4.17 for information regarding average weekday transit boardings at Downtown bus stops.

Figure 4.5.b: Transit Service Span

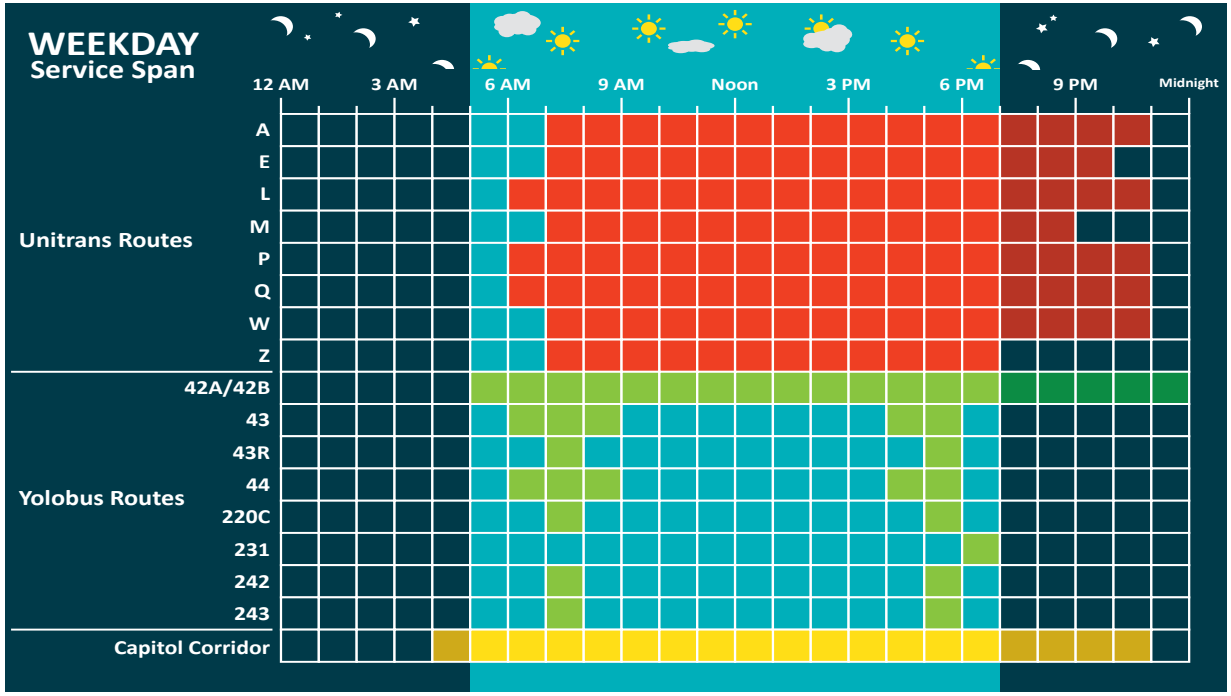


Figure 4.5.c: Transit Trips

WHAT YOU SEE ON THIS MAP

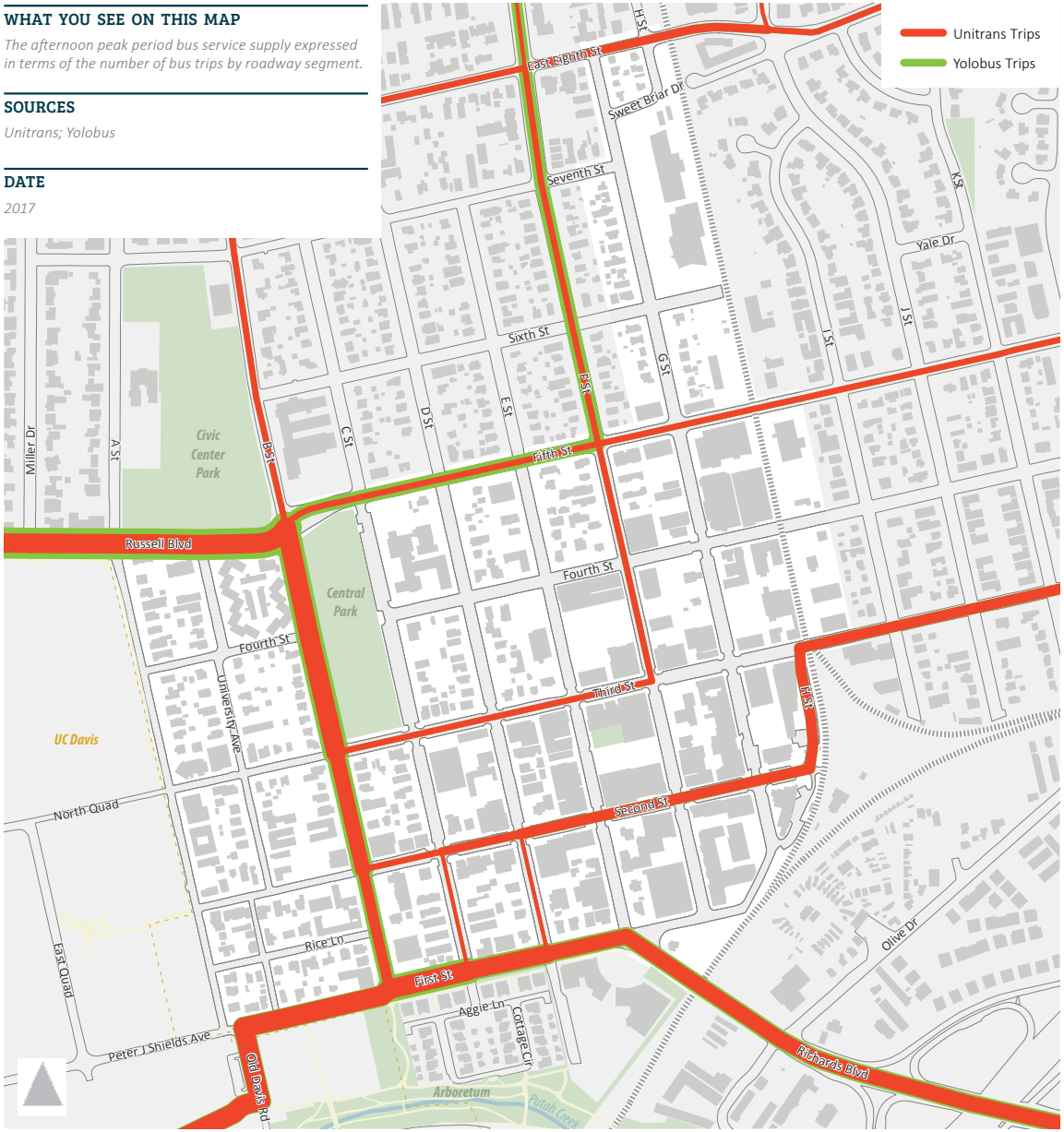
The afternoon peak period bus service supply expressed in terms of the number of bus trips by roadway segment.

SOURCES

Unitrans; Yolobus

DATE

2017



Passenger Rail Service

Amtrak provides passenger rail service to Davis at the Davis Train Depot located near Second Street and G Street in the southeast corner of Downtown. Amtrak Capitol Corridor service is available at the depot, connecting passengers to Sacramento and Roseville to the east and the Bay Area to the west. Existing Capitol Corridor service levels provide 15 daily round-trips during typical weekdays at the Davis Train Depot at approximately hourly headways. With over 500 daily boardings, Davis generates the second highest average weekday ridership of all stations located along the Capitol Corridor, trailing only Sacramento Valley Station.

Davis Train Depot

The Davis Train Depot is the primary transit center in Downtown. Served by Unitrans and Amtrak rail and bus service, the depot provides connections to both the regional and local transit networks.

According to recent surveys, Capitol Corridor passengers access the depot via a variety of modes, including automobile (55%), transit (5%), walking (15%), and biking (25%).

The depot and surrounding passenger parking lot are bounded on all sides by railroad tracks. For all modes, the depot is accessible via a single at-grade rail crossing located near the intersection of H Street and Second Street.

Figure 4.5.d: Transit Ridership

WHAT YOU SEE ON THIS MAP

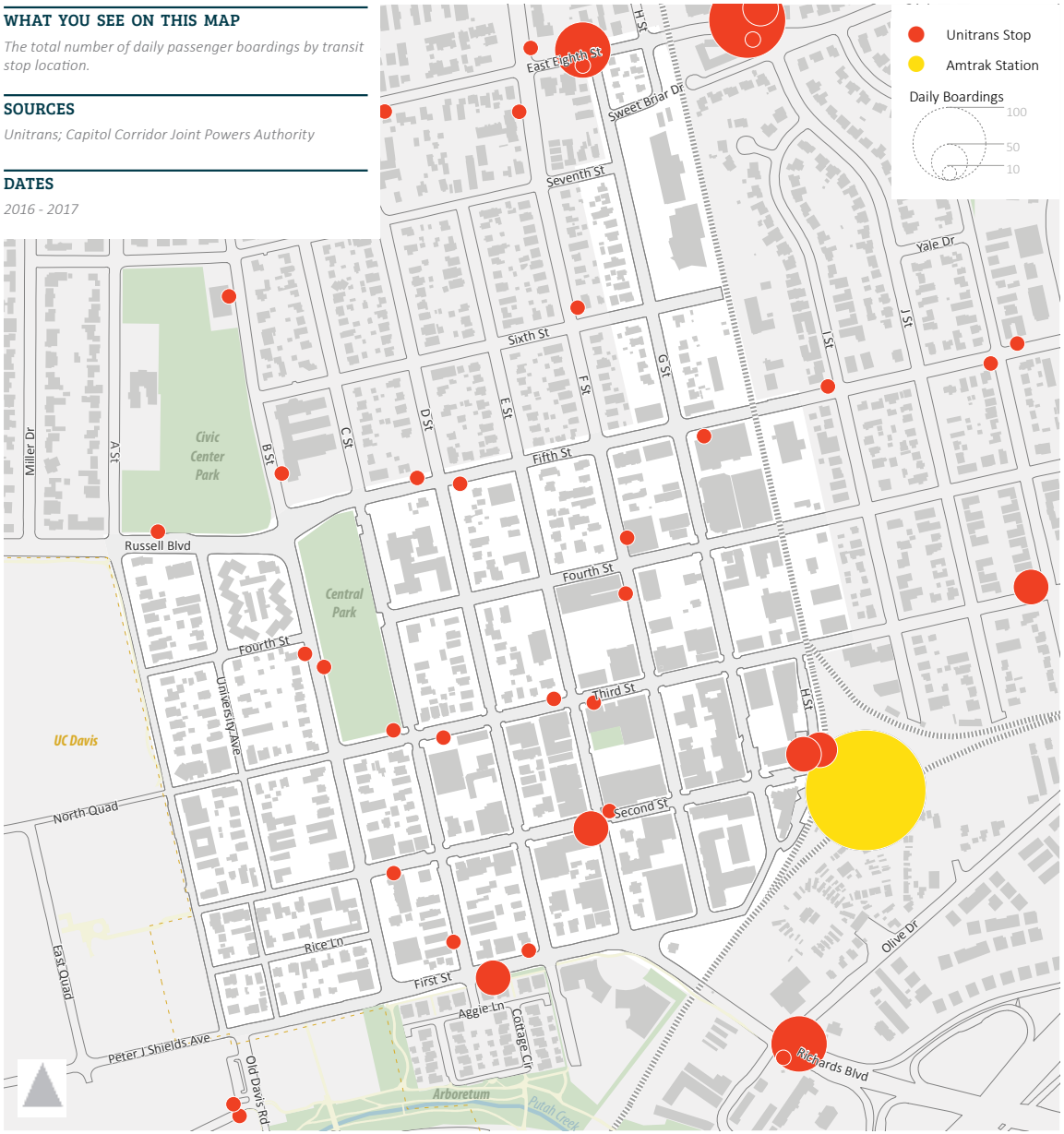
The total number of daily passenger boardings by transit stop location.

SOURCES

Unitrans; Capitol Corridor Joint Powers Authority

DATES

2016 - 2017



4.6 Travel Patterns

Downtown Davis attracts visitors from throughout Davis, the Sacramento area, and the broader Northern California region. Travel patterns can vary depending on the time of day and the day of the week, resulting in an ebb and flow of trips in and out of Downtown Davis over the course of a typical week. Examining travel patterns - both locally and regionally - can provide important clues about existing travel behavior in and around Downtown Davis to better inform the development of the future Downtown transportation system.

EXISTING TRAVEL PATTERNS

Travel patterns are typically expressed in terms of origins and destinations - origins being locations where trips begin, and destinations being locations where trips end. In its most basic form, a travel pattern is an origin-destination pair that represents a direct trip from one location to another. Work commute trips are among the most common origin-destination pairs, typically from a residence to a place of employment in the morning, and then back to home at the end of a work day.

The origin-destination data illustrated on the opposite page are derived from StreetLight Data. StreetLight aggregates anonymized location data collected from GPS devices in smartphones and car navigation systems and estimates the distribution and quantity of trips between or through geographic areas. Conventional approaches to estimating trip distribution rely on travel demand models, however, the use of StreetLight data casts a snapshot of origin-destination information grounded in the actual travel behavior of roadway users.

Origin-destination data analyzed for the Downtown Davis Plan encompasses 25 distinct geographic areas - 20 zones drawn along neighborhood boundaries across Davis and the UC Davis campus and five zones representing external areas such as the Sacramento area, Woodland, and the Bay Area. Figure 4.6.a aggregates origin-destination data into larger zones to more clearly define major travel patterns headed inbound towards Downtown Davis.

The following key conclusions can be drawn from the origin-destination data:

- **Weekday morning** inbound trips to Downtown Davis are split evenly between those originating within Davis and those originating outside of Davis. Over 40 percent of trips destined for Downtown originate along the Interstate 80 corridor, suggesting that a significant share of Downtown morning trips rely on local freeway access routes, particularly the Richards Boulevard corridor. Typically, morning peak period trips correspond with work commute trips, suggesting that a substantial share of Downtown employees reside outside of the City. Of all Davis zones, East Davis generates the greatest share of Downtown trips, while UC Davis generates the fewest. Internal trips originating from within Downtown Davis are very low.
- The vast majority of **weekday afternoon** inbound trips to Downtown Davis, which typically correspond with shopping, dining, and recreational trips, originate locally. Trips originating from the UC Davis campus represent the highest share of weekday evening trips. Although not illustrated here, the UC Davis campus exhibits a similarly high share of weekday evening trips (after 6 PM) into Downtown Davis, suggesting that students and employees travel off-campus and into Downtown for a variety of trip purposes.
- **Weekend mid-day** inbound trips to Downtown Davis, which typically correspond with shopping and recreational trips, are heavily oriented towards local trips (only one-quarter of trips originate external to Davis).

Figure 4.6.a : Existing Travel Patterns

WHAT YOU SEE BELOW

The distribution of local and regional weekday morning peak period, weekday afternoon peak period, and weekend mid-day period trips ending in Downtown Davis.

SOURCES

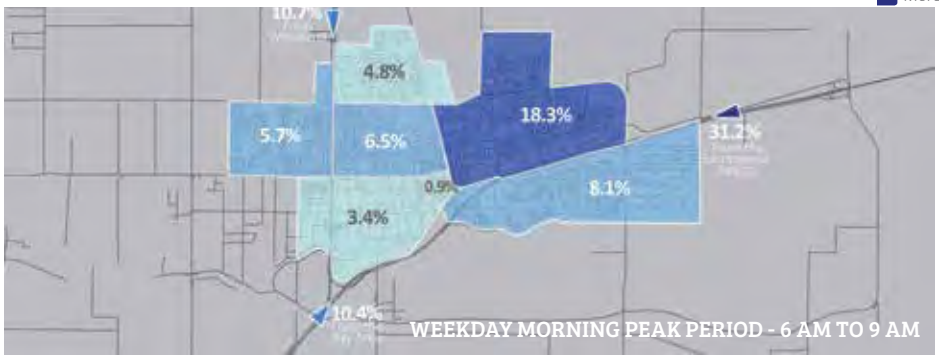
StreetLight Data

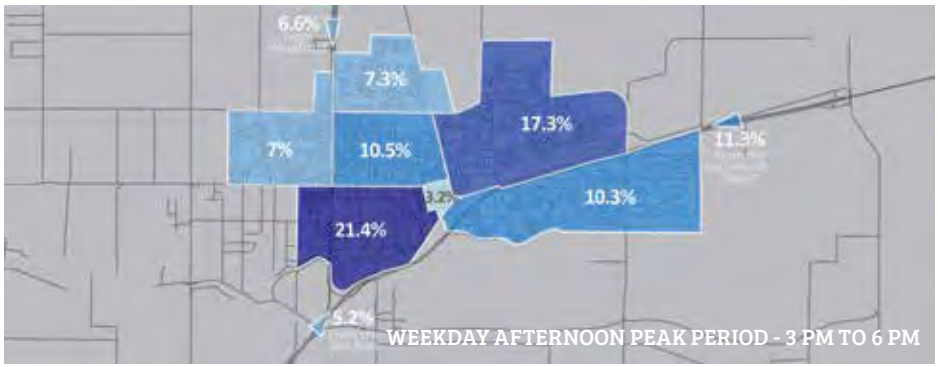
DATES

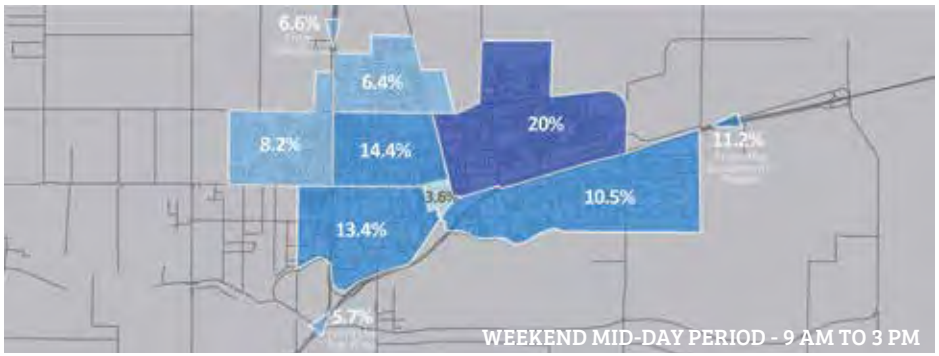
2016 - 2017

LEGEND

- *Less than 5%*
- *5% to 10%*
- *10% to 15%*
- *15% to 20%*
- *More than 20%*







4.7 Chapter Summary of Findings

OVERVIEW

This chapter describes the existing transportation system in and around Downtown Davis.

KEY FINDINGS

- Downtown features an active and dynamic multimodal transportation network with users of all ages and abilities.
- The pedestrian experience is an important part of the overall Downtown environment, since every Downtown visitor is a pedestrian for at least some portion of their trip.
- Bicycle access into Downtown is available on a variety of bicycle facility types. Over 1,700 bicycle parking spaces are available within Downtown.
- Travel patterns into, out of, and within Downtown vary dramatically depending on the time of day and day of week.
- Downtown has well-defined edges with distinct local and regional gateways for automobiles, bicyclists, pedestrians, and transit passengers.
- Through traffic and buses primarily use Fifth Street, B Street, and First Street along the edges of Downtown.
- The low-speed, low-volume roadway network in the core of the Downtown area reduces the potential for severe collisions.

OPPORTUNITIES

- Additional investments in the pedestrian environment, such as mid-block pathways, activated and improved alleyways, and enhanced sidewalks, would serve a growing population and reinforce the vibrant and walkable character of Downtown Davis.
- Downtown's small-block, grid-based roadway structure creates a highly connected network for all modes. Available roadway right-of-way could be repurposed in a variety of ways to better serve Downtown residents, employees, and visitors.
- Downtown's close proximity to population concentrations such as the UC Davis campus and adjacent residential neighborhoods makes it an attractive destination for walking and biking trips.
- The availability of commuter and regional passenger rail service at the Davis Train Depot highlights the potential of the station area as an activity node for local residents and out-of-town visitors alike.
- Emerging transportation trends and technologies such as ridehailing services, microtransit, autonomous vehicles, and electric personal mobility devices are likely to change the way people travel to Downtown over time (e.g., greater vehicle trips, less parking demand, greater demand for curb space, etc.).
- The potential relocation of the north-south railroad tracks could provide opportunities for enhanced connectivity along the eastern edge of Downtown.

CONSTRAINTS

- High volumes of pedestrian, bicycle, and automobile activity can create a challenging operating environment in conflict areas such as intersections and driveways.
- Roadways with angled parking or frequent curbside activity (e.g., delivery vehicle loading and unloading) are less conducive to a high quality bicycling environment.
- Factors such as narrow sidewalk widths, encroaching street furniture, and frequent driveway curb cuts diminish the pedestrian environment, particularly for individuals with disabilities or mobility impairment.
- Established edges, including the railroad tracks and Fifth Street, form barriers to travel into and out of Downtown, requiring targeted strategies to better improve accessibility between Downtown and adjacent neighborhoods.
- The Davis Train Depot is limited to a single access point due to its configuration within the triangular railroad junction.

Parking and TDM Strategies

Chapter 5

Author: Nelson \ Nygaard

5.1 Past and Ongoing Planning Efforts

OVERVIEW

The 2013 Davis General Plan Transportation Element and the 2014 Downtown Parking Management Plan are the primary regulatory documents that guide transportation planning and development in the study area today.

GENERAL PLAN TRANSPORTATION ELEMENT

Relevant policies from the General Plan Transportation Element that pertain to parking and TDM include the following:

- **Develop and maintain a work trip-reduction program designed to reduce carbon emissions, criteria pollutants, and local traffic congestion (Policy TRANS 1.8):** This policy encourages the use of non-drive-alone modes and aims to reduce parking demand. The 2014 Downtown Parking Management Plan supported this policy by creating a transportation and parking alternatives campaign.
- **Use parking management techniques to efficiently manage motor vehicle parking supply and promote sustainability (Policy TRANS 5.1):** This policy aims to maximize the efficiency of the existing parking supply by using the parking system as a motor vehicle demand-management tool.

DOWNTOWN PARKING MANAGEMENT PLAN

In fall 2012, the Davis City Council appointed a Downtown Parking Task Force to identify issues and solutions for downtown parking. The task force developed the Downtown Parking Management Plan to summarize the process, data, and recommendations. Four goals were established to guide the final recommendations and produce tangible outcomes:

- **Goal #1:** Improve customer / visitor parking convenience and experience.
- **Goal #2:** Provide adequate parking options for downtown employees.
- **Goal #3:** Ensure adequate parking supply to serve the needs of existing and future development.
- **Goal #4:** Promote alternative access to downtown to reduce parking demand.

To achieve these goals, the task force drafted a set of 19 recommendations. The current status of each recommendation is shown in Table 5.1.a. Future updates to these recommendations can be found on the city's Downtown Parking Management Plan webpage.

Table 5.1.a: Downtown Parking Management Plan Recommendations, June 2017

	Recommendation	Status	Notes
1	Establish paid parking in southeast quadrant.	In progress (Priority 1)	In November 2017, the City Council approved paid parking for the southeast quadrant. Pricing structure and meter technology/capabilities still need to be determined.
2	Increase employee parking location options.	In progress (Priority 1 & 2)	Discussions with Fourth & G Garage owner to make more of this lot available to X-permit holders and the public in progress. An update will be provided to City Council in February 2018. A new "City lot" (at Olive Drive) is under construction.
3	Increase employee permit fees and streamline employee parking to single "X" permit.	Complete	Former D & X permits consolidated under the X permit designation in August 2013. Raised X permit fees to $120 per year in August 2015.
4	Convert Amtrak Lot to paid parking.	Not started (Priority 3)	Executive management is expected to initiate conversations with California Transportation Commission and Caltrans by Spring 2018.
5	Restrict delivery double-parking between 12 and 1:30 p.m. for the area bounded by Second Street, Fourth Street, D Street, and G Street.	Complete	Ordinance approved by Council on May 17, 2016. Street signs installed in July/August 2016.

Table 5.1.a: Downtown Parking Management Plan Recommendations, June 2017

Recommendation	Status	Notes
6 Eliminate on-street green waste in downtown for the area bounded by First Street, Fifth Street, B Street, and the railroad tracks.	Complete	Green waste (agricultural or biodegradable waste) on the street in the area bounded by First Street, Fifth Street, B Street, and the railroad tracks is prohibited by ordinance. Containerized green waste bins are now required.
7 Extend parking enforcement hours to 8 p.m.	Not started	Council direction to defer until after Recommendation #1 is implemented (current enforcement hours are 8 a.m. to 6 p.m.)
8 Establish tiered-fine citation system.	Deferred	Deferred since the existing citation processing technology cannot accommodate a tiered system. Recommended parking citation fines: $43 for first citation (current fine); $86 for second citation; and $129 for third and subsequent citations.
9 Upgrade parking enforcement technology.	Complete	Davis Police Department now uses license plate reader (LPR) technology for enforcement.
10 Invest in electronic information system.	In progress (Priority 1)	Project will go out to bid December 2017. Installation expected in first half of FY 17/18.
11 Develop transportation and parking alternatives campaign.	Complete	Developed GettingAroundDavis.org website. A public outreach campaign is beyond existing staff resources.
12 Collect quarterly parking occupancy and turnover data.	Ongoing	The City continues to collect parking occupancy data for City-operated parking twice a year. No occupancy data was collected for Spring and Fall 2017 due to resource constraints. The City has issued a purchase order for PCS Mobile/Genetec to develop reports that will be pulled from LPR records data.
13 Explore voluntary private shared-parking district.	Deferred	Contacts have been made with several private property owners who are generally not interested in a voluntary arrangement.
14 Provide van-accessible parking upon street resurfacing.	Not started (Priority 1)	Van accessible parking will be implemented along with the establishment of Recommendation #1, paid parking.
15 Streetscape improvements.	Not started (Priority 2)	Council directed staff to focus first on lighting and repairing downtown sidewalk tripping hazards. Tentative implementation: Summer 2018.
16 Expand parking supply.	Not started (Priority 3)	Deferred until implementation of Priorities 1 and 2.
17 Provide administrative resources necessary for successful implementation of the Downtown Parking Management Plan.	In Progress	Accompanies Recommendation #1. The City will be working with a consultant team on a paid parking implementation analysis.
18 Improve transit options in downtown.	Not started (Priority 3)	Suggested measures include: Improve marketing of all public transit options; Negotiate with Yolobus to extend service area; Consider ways to provide late-night service; Reduce Unitrans service interruptions during UC Davis off-season; and Encourage businesses to offer incentives for people who bike, walk, or bus into downtown.
19 Re-examine in-lieu parking fee policies and procedures.	In Progress	An evaluation of parking in-lieu fees and procedures is complete but changes to in-lieu fee program are deferred until after the update of the Downtown Davis Plan.

Sources: "Downtown Parking Management Plan Recommendations Table", City of Davis, accessed December 2017, http://cityofdavis.org/city-hall/public-works/transportation/transportation-planning/downtown-parking-management-plan, Brian Abbanat, email correspondence, December 5, 2017.

5.2 Parking Supply

OVERVIEW

The Downtown Davis has more than 3,000 parking spaces—more than 1,100 on-street spaces, nearly 1,000 off-street city operated spaces, and roughly 900 off-street privately owned spaces (per an estimate from the 2013 UC Davis study). Table 5.2.a provides a summary of the Downtown Davis parking inventory. Figure 5.2.a shows how the inventory distributes across the Downtown Davis and notes applicable time restrictions. Specific inventory and regulatory information about private lots was not available. It should be noted that the parking garage located at Fourth and G Streets has a total of 512 spaces (higher than indicated in Figure 5.2.a) but the City only manages a portion (199) of these spaces.

This analysis used public parking inventory and occupancy data collected in the last five years. The City data collection efforts did not include private off-street parking, but a group of students from UC Davis conducted a parking study in 2013 that included private parking. Only a summary presentation of this latter study's findings was available to the Consultant team, so exact figures about private parking supply and occupancy within the Downtown Davis could not be determined.

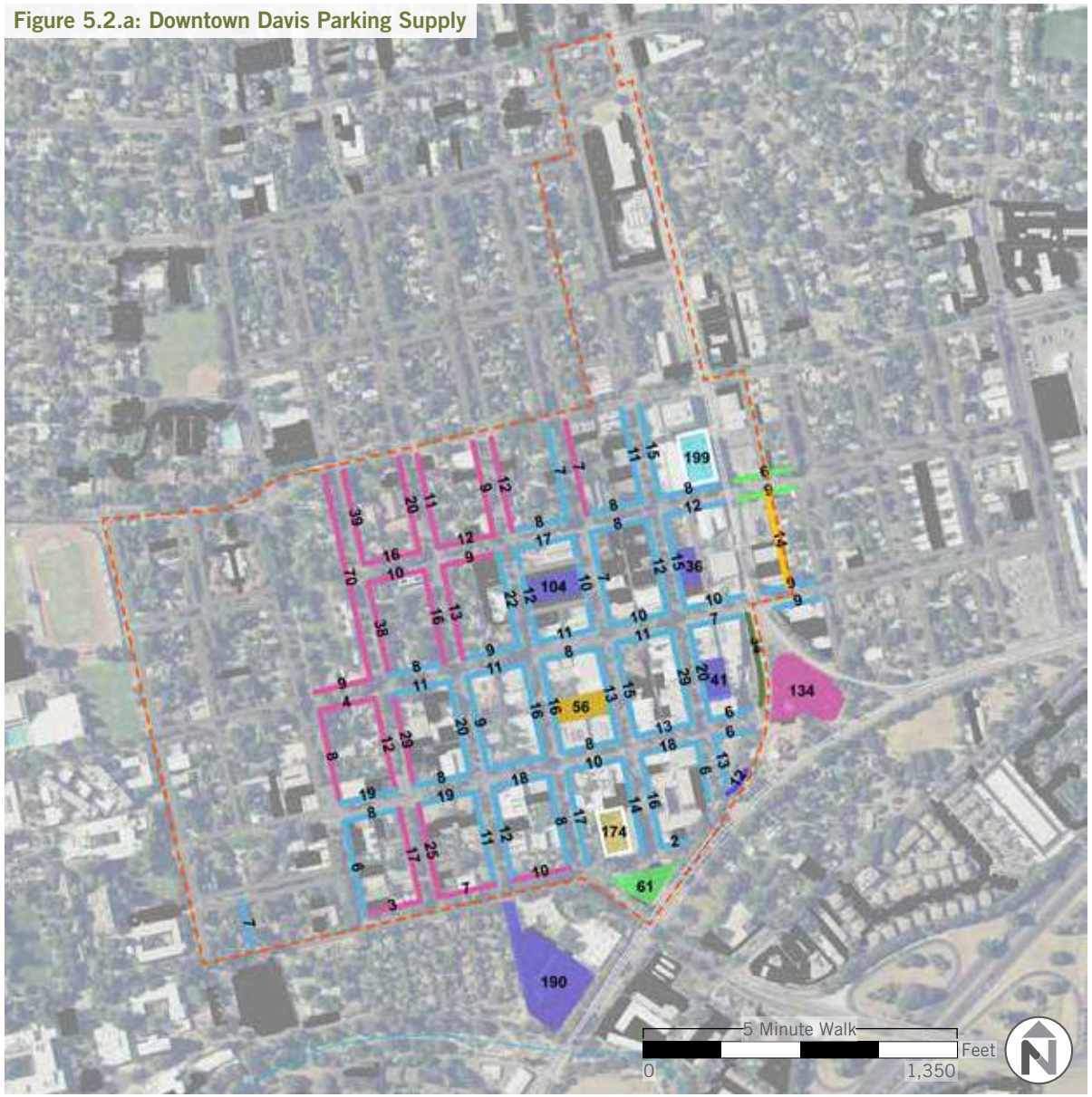
Table 5.2.a: Total Number of Parking Spaces by Type

Type	Time Restricted/Permitted	Metered	Unknown	Total
On-Street	1,159	0	0	1,159
Off-Street, City Operated	939	56	0	995
Private Lots*	N/A	N/A	900	900
Total	2,098	56	900	3,055

Note: The City of Davis does not include private lots in its inventory. Private lot spaces were estimated in a 2013 parking study completed by UC Davis, but that study did not include regulatory or pricing information.

Source: City of Davis, 2017; UC Davis Engineering: Civil and Environmental Course 162, Spring 2013

Figure 5.2.a: Downtown Davis Parking Supply



Note: The number of spaces in City-operated facilities is shown. Detailed inventory data for private lots is not available.

ON-STREET PARKING SUPPLY

All of the 1,159 on-street spaces in Downtown Davis are regulated with time limits, permits, or both. Just over half (51%) of on-street spaces are subject to a time restriction of two hours between 8 a.m. and 6 p.m., Monday through Saturday (Table 5.2.b).

"X" permits are available to employees of businesses in Downtown Davis. Permits can be purchased on an annual ($120 per year) or month-to-month basis ($10 per month). Amtrak riders using the designated on-street parking must display an Amtrak parking pass—available for free from a station agent—to avoid a citation. Thirty-seven percent of on-street spaces are open to "X" permit holders, including some two-hour parking spaces (2%) that can be occupied for longer than two hours with an Amtrak or "X" permit.

90-minute time restrictions apply to small portion of spaces (3%) between 8 a.m. and 6 p.m., Monday through Friday, and a larger portion (34%) between 8 a.m. and 10 p.m., unless the car is registered with an "X" permit. 20-minute spaces are made visible with green curb markings, and the designation is active between 7 a.m. and 6 p.m., Monday through Saturday.

In addition to time limitations, vehicles that park on the street are subject to re-parking restrictions. This regulation prohibits vehicles from re-parking on the same block face sooner than a "timeout period," which is equal to double the posted time limit. For example, if a driver parks along a two-hour block face and returns to their car after two hours, the driver cannot re-park on that same block face until four hours after he or she began the original parking session. This policy does not apply to passenger loading zones or 20-minute parking zones.

Table 5.2.b: On-Street Parking Inventory, by Type of Regulation

Regulation	Number of Spaces	% of Total Parking Spaces
20-minute	97	8%
90-min: 8 a.m. – 6 p.m.	33	3%
90-min / X permit: 8 a.m. – 10 p.m.	397	34%
2-hr: 8 a.m. – 6 p.m.	591	51%
2-hr / Amtrak permit: 5 a.m. – 5 p.m.	12	1%
2-hr / X permit: 6 a.m. – 10 p.m.	15	1%
X permit: 6 a.m. – 9 p.m.	14	1%
Total	**1,159**	**100%**

Source: City of Davis Master Inventory, 2017

OFF-STREET PARKING SUPPLY – PUBLIC

Most off-street lots and garages have two- to three-hour time restrictions. Two off-street parking facilities have paid parking—the E Street Plaza Lot and the Fourth and G Garage. In the E Street Plaza Parking Lot, drivers can park for $0.25 per 15 minutes or $1 per hour with a $10.00 daily maximum. The Fourth and G Garage has free parking for the first three hours, with a $1 per hour fee after three hours and a $5 daily maximum (Table 5.2.c).

Although roughly half of the spaces in the Fourth and G Garage are available to the public during business hours (and most of the remaining spaces are publicly available

On-street parking limitations are posted along each block face throughout the Core Area., Source: Nelson\Nygaard

evenings and weekends), the garage is privately owned. The City helped fund the construction of the garage using Redevelopment Agency funds, and in return, the developer agreed to make part of the garage publicly available through 2027. The developer has contracted with Central Parking to manage monthly permits and conduct enforcement in the garage. Monthly permits are available to adjacent tenants, such as employees from the United States Department of Agriculture (USDA), at $40 per month, and they are sold online. The allocation of spaces in this garage is detailed in the Fifth and G Plaza Parking Plan, which can be found in the Appendix 2.

Off-street Parking Supply - Private

The City of Davis does not have a comprehensive inventory of private parking. However, in spring 2013, a group of UC Davis students conducted a parking study for an area larger than Downtown Davis (which included the entire Core Area within its boundaries). As noted earlier, only a summary presentation of this latter study's findings was available to the Consultant team, so exact figures about private parking supply and occupancy within the Downtown Davis could not be determined. The study provided some information about how private off-street spaces are managed (Table 5.2.d).[1]

1 Only a summary presentation of the study was available, which limited its utility for this analysis. Without detailed data, private parking inventory and occupancy at the level of individual parking facilities (i.e., individual blocks of curb parking and individual off-street lots and garages) cannot be determined. No reliable conclusions can be drawn about the inventory or occupancy of public versus privately-owned parking facilities, since the summary presentation does not distinguish between the two. Additionally, the area covered in this 2013 study is different from the study area for the Core Area Plan, making it difficult to draw conclusions about the conditions in the Core Area from the summary presentation. A copy of this summary report can be found in the Appendix 4.

PAID PARKING IN DOWNTOWN DAVIS

On November 7, 2017, Davis City Council approved the implementation of paid parking for all public on-street and off-street parking spaces in the southeast quadrant of downtown—between First and Third Streets and D and H Streets. All on-street parking outside of this paid parking area will be shifted to 90-minute time limits, and all off-street parking will shift to two- or three-hour limits. Some on- and off-street parking will still be available for "X" or Amtrak permit holders. City staff will be working over the coming months to identify meter technology and to develop a pricing structure. The complete staff report on the approved downtown parking management changes can be found in Appendix 1.

Table 5.2.c: Off-Street Parking Inventory, by Type of Regulation

Regulation	Number of Spaces	% of Total Parking Spaces
20-minute	4	0.4%
2-hr: 8 a.m. – 6 p.m.	369	37%
2-hr / X permit: 6 a.m. – 10 p.m.	61	6%
3-hr / Daily	199	20%
3-hr / X permit: 8 a.m. – 6 p.m.	174	17%
Amtrak permit: 5 a.m. – 5 p.m.	132	13%
Metered parking	56	6%
Total	**995**	**100%**

Source: City of Davis Master Inventory, 2017

Table 5.2.d: Parking Inventory from 2013 UCD Parking Study (Covers Larger Area than the Downtown/ Core Area)

Type	Number of Spaces	% of Total Spaces
On-street	1,382	31%
Off-street	2,336	53%
Private	901	39%
Permit	192	8%
Customer	628	27%
Employee	6	0%
Loading	5	0%
Electric	1	0%
Other	68	3%
Public lots	535	23%
Garage Spaces	686	16%
Total	**4,404**	**100%**

Source: UC Davis ECI Course 162, Spring 2013

5.3 Parking Occupancy - City Operated

This parking occupancy analysis includes data from City-led parking occupancy counts conducted for public downtown parking supplies in fall 2012, spring 2015, fall 2015, and spring 2016. Data provided for fall 2014 were not included this analysis as they were incomplete. As noted earlier, data from a 2013 parking study produced by a group of UC Davis students that included private facilities were not included because detailed data from the study were unavailable.

For most occupancy data sets used in this analysis, data were collected for four time periods on each of a Monday, Wednesday, Friday, and Saturday: 9 to 10 a.m., 12 to 1 p.m., 3 to 4 p.m., and 6:30 to 7:30 p.m.

In recent years, the City has tried to be more consistent in collecting parking occupancy data. UC Davis Transportation and Parking Services (TAPS) conducted occupancy counts for the City in fall 2015. This simplified the process for City staff as they did not have to rely on volunteers for this data collection effort. However, TAPS was unable to provide this service to the City during either hoped-for data collection period in 2017 due to staffing limitations.

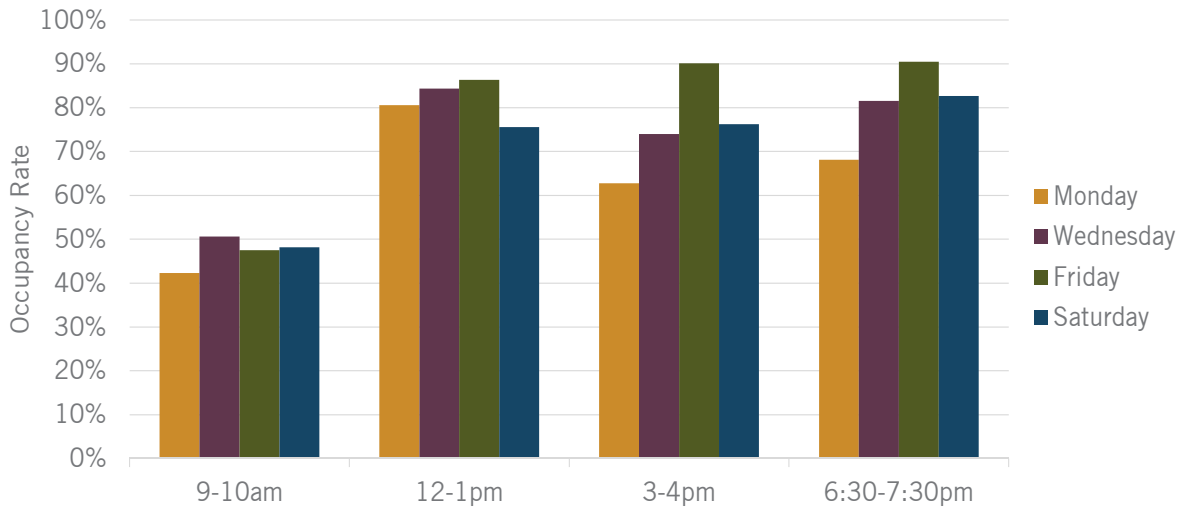
The City is currently working with PCS Mobile and Genetec to develop a customized geographic information system (GIS) occupancy-reporting system. Data would be provided from the City's license plate recognition platform, AutoVu. This would relieve City staff from manually collecting occupancy data and allow them to collect data more frequently and more consistently. A City staff memo and cost proposal are included in the Appendix 3 for reference.

RESULTS

As shown in Figure 5.3.a, temporal patterns for each data collection effort in 2016 follow a similar trend: Utilization is generally lower during the 9 to 10 a.m. time period (ranging from 40% to 50%), increases during the 12 to 1 p.m. time period, then declines from 3 to 4 p.m., and increases again in the evening (6:30 to 7:30 p.m.). Friday is an exception to this pattern with parking occupancy continuously increasing throughout the day.

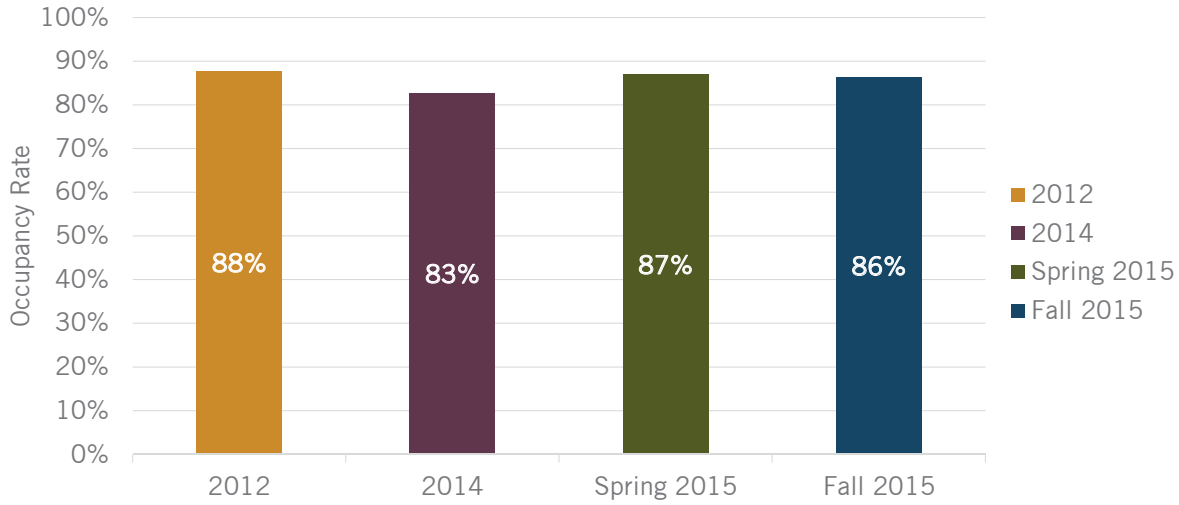
The time point with the highest average occupancy across all years—Friday 12 to 1 p.m.—was deemed the peak hour for purposes of this study. Figure 5.3.b shows the peak-hour occupancy for each data set. All data collection efforts revealed occupancy levels consistently above 80% during the Friday 12 to 1 p.m. time period.

Figure 5.3.a: Peak Parking Occupancy, Friday 12 to 1 p.m. (City-Operated Parking Only)



Source: City of Davis

Figure 5.3.b: Parking Occupancy by Day, 2016 (City-Operated Parking Only)

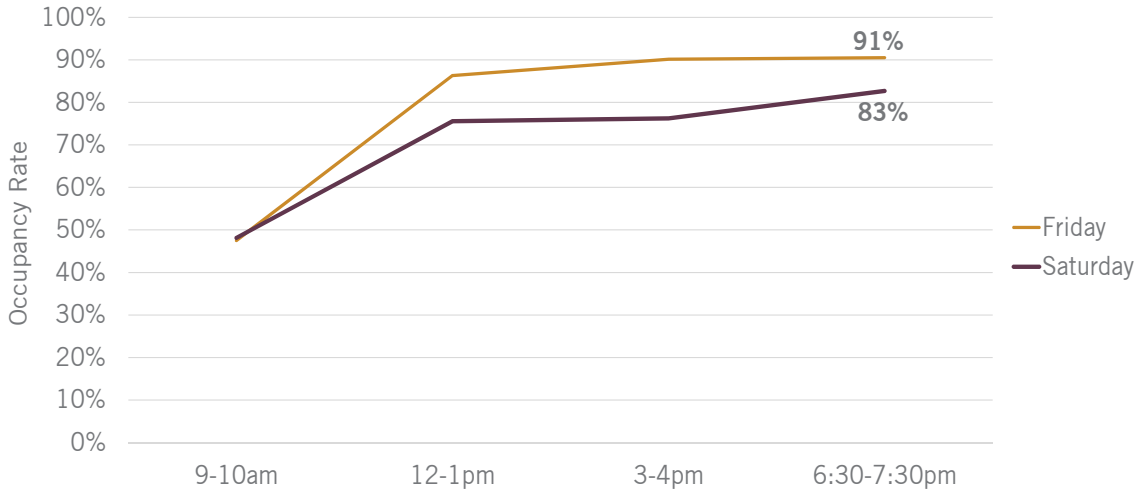


Source: City of Davis

Figure 5.3.c compares occupancies on weekdays versus weekends during the spring 2016 data collection effort. Morning occupancy for these two days started out the same on each day type, but weekday utilization increased at a faster rate than weekend occupancy.

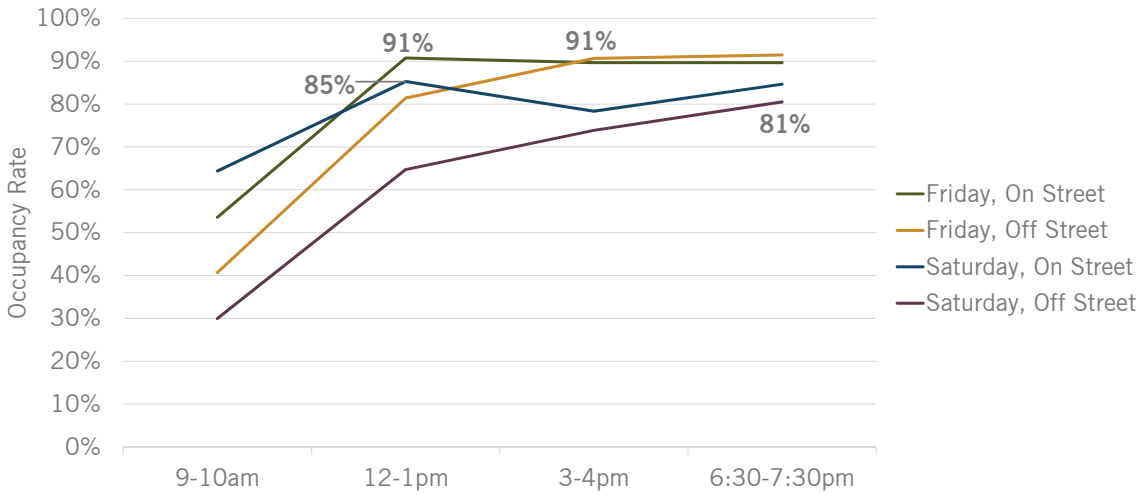
On Fridays and Saturdays, on-street parking occupancy was typically greater than off-street occupancy. As shown in Figure 5.3.d, on-street occupancy on Friday was higher than off-street occupancy in the morning and early afternoon, though once on-street occupancy reached 90%, off-street occupancy increased. Similarly, off-street occupancy on Saturday steadily increased while on-street occupancy peaked in the early afternoon, decreased from 3 to 4 p.m., and then increased in the evening.

Figure 5.3.c: Weekday Versus Weekend Parking Occupancy (City-Operated Parking Only)



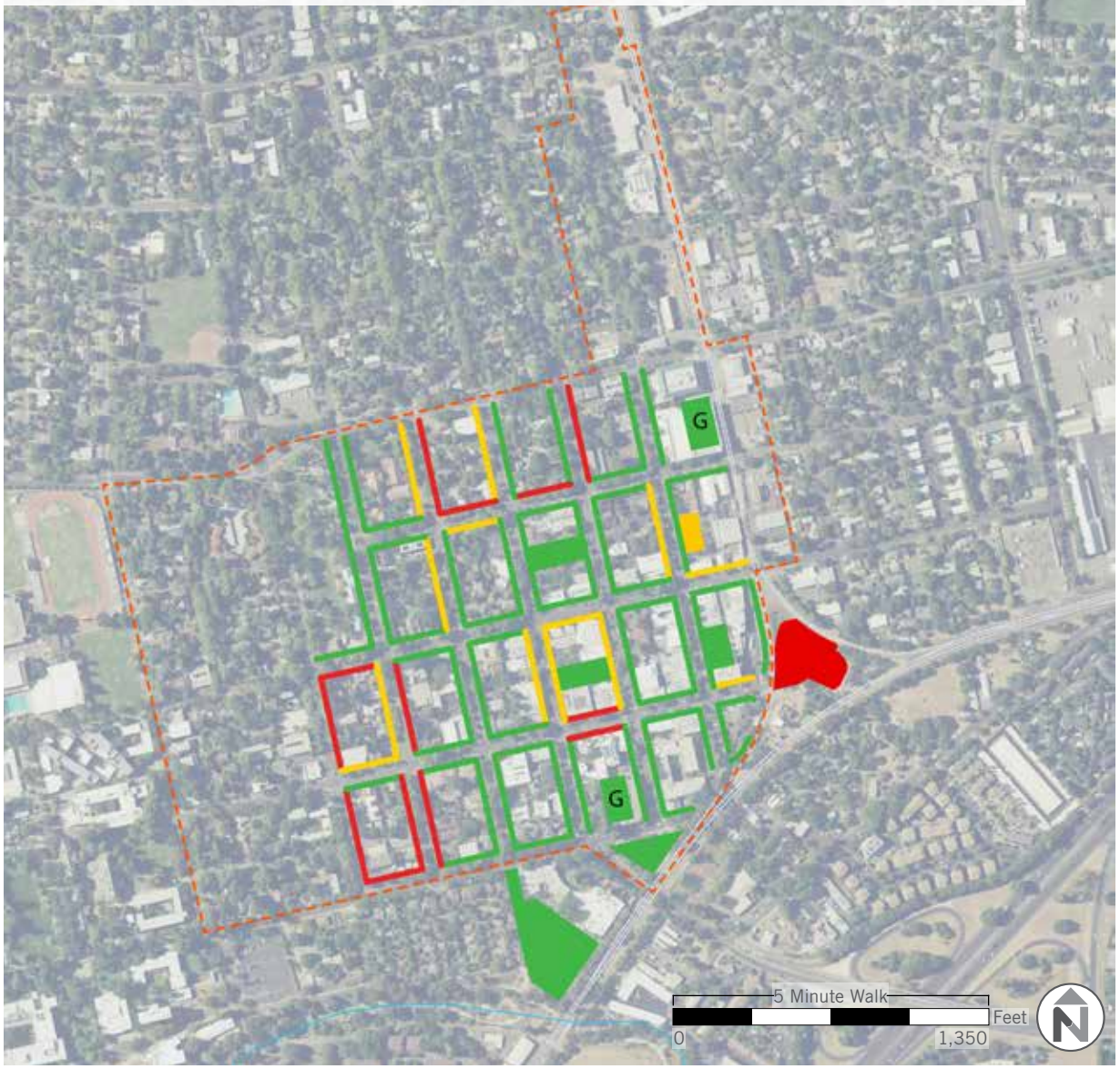
Source: City of Davis

Figure 5.3.d: On-Street Versus Off-Street Parking Occupancy on Weekdays and Weekends (City-Operated Parking Only)



Source: City of Davis

Figure 5.3.e: Study Area Occupancy (City-Operated Parking Only) - Friday 9 to 10 a.m., Spring 2016



The following set of maps (Figures 5.3.e to 5.3.h) shows spatial parking-occupancy dynamics for spring 2016. Parking occupancies were highest in the southern half of the Downtown Davis (i.e. south of Third Street), except in the morning, when higher occupancy levels were more on the periphery of the area, near the area's primarily residential surroundings. During the midday and evening periods, occupancy levels were quite high with only four to five block faces below 65% occupancy.

Some of the off-street parking lots and garages show unique patterns. The Amtrak lot-located just outside the southeast corner of the Downtown Davis-was clearly oriented toward commuters with a consistently high occupancy from morning to late afternoon. On Fridays, the high occupancy of this lot extended into the evening but on weekdays (i.e. Monday and Wednesday) the occupancy was a bit lower in the evening. The Fourth and G Street parking structure-located in the northeast corner of the Downtown Davis-shows lower utilization levels even during the highest overall peaks.

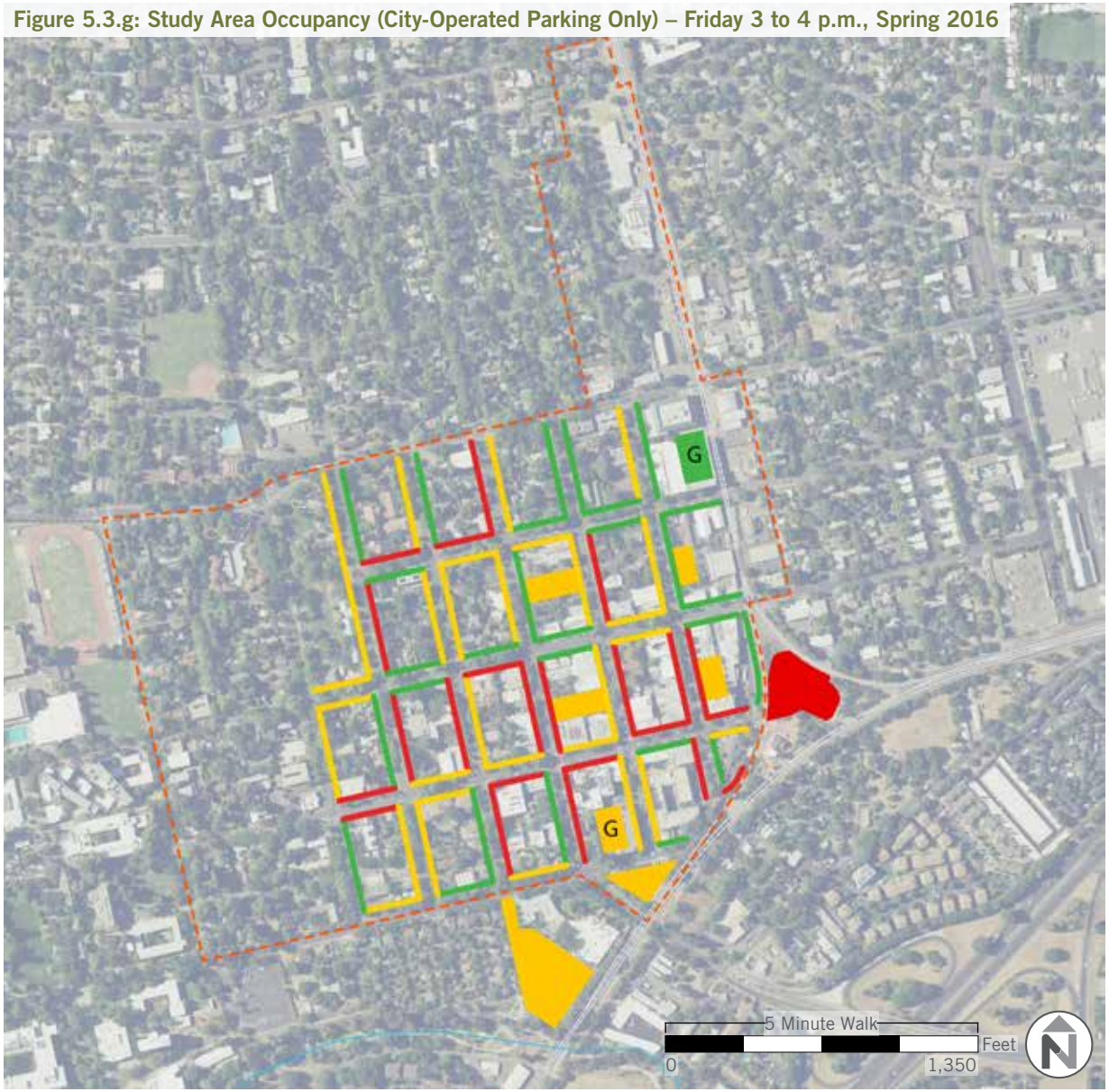
Additional maps of peak hour parking occupancy for 2012 and spring 2015 are included in Appendix 5.

Note: The occupancy of spaces in City-operated facilities is shown. Detailed occupancy data for private lots is not available.

Figure 5.3.f: Study Area Occupancy (City-Operated Parking Only) – Friday 12 to 1 p.m., Spring 2016

Note: The occupancy of spaces in City-operated facilities is shown. Detailed occupancy data for private lots is not available.

Figure 5.3.g: Study Area Occupancy (City-Operated Parking Only) – Friday 3 to 4 p.m., Spring 2016



Note: The occupancy of spaces in City-operated facilities is shown. Detailed occupancy data for private lots is not available.

Figure 5.3.h: Study Area Occupancy (City-Operated Parking Only) – Friday 6:30 to 7:30 p.m., Spring 2016

Note: The occupancy of spaces in City-operated facilities is shown. Detailed occupancy data for private lots is not available.

5.4 Existing Policy Framework

Parking in the Downtown Davis (Core Area) is currently regulated by parking districts and municipal code policies.

DOWNTOWN PARKING DISTRICTS

Individual parcels' zoning and parking district dictate whether a new development or change of use (1) must provide parking, (2) has the option of paying an in-lieu fee instead of providing parking, and (3) has the option of providing required parking in an off-site location nearby. The 2004 in-lieu parking policy established three downtown parking districts along with the parking requirements listed in Table 5.4.a. Zoning and parking district boundaries are shown in Figure 5.4.a.

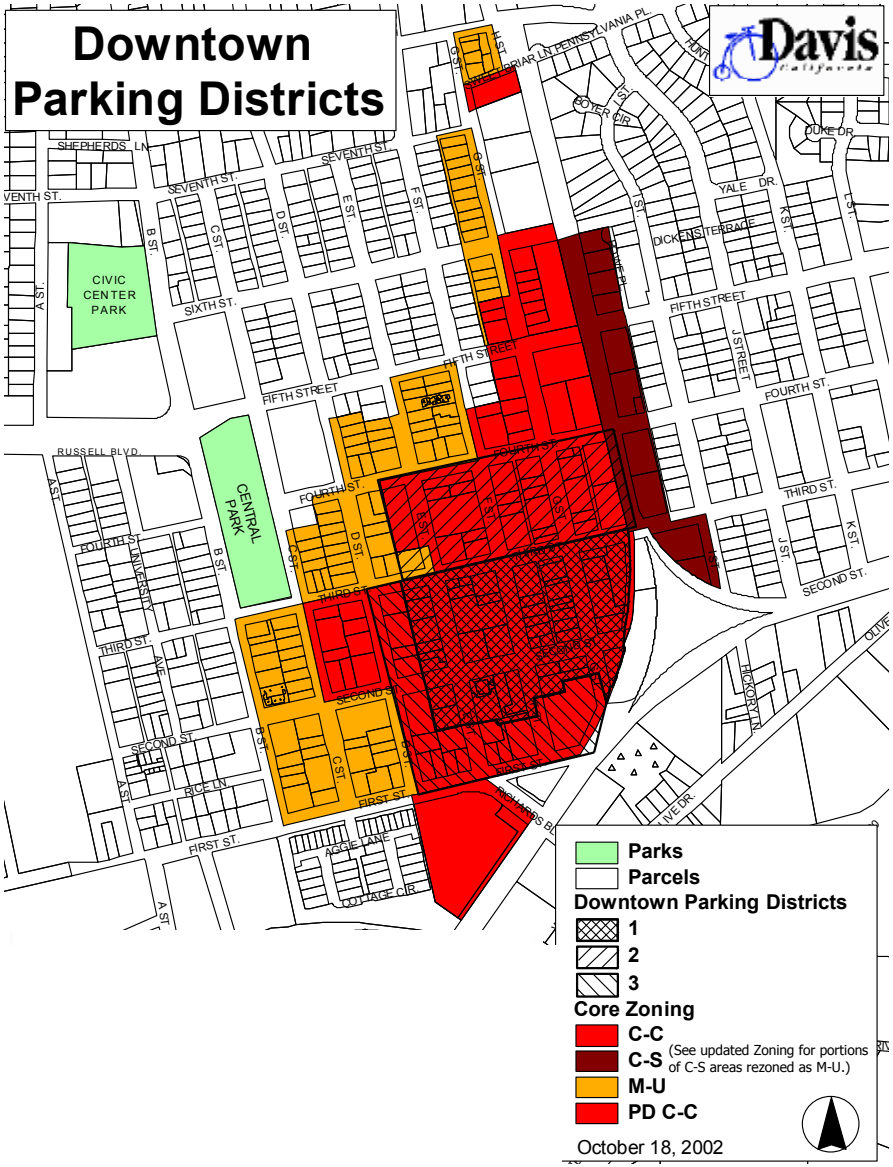
The current policy does not require parking for changes in use if the parcel is zoned Central Commercial and located in Parking Districts 1 and 3. Additions to structures in these areas require parking, but providing off-site parking or paying an in-lieu fee are also options. Parking is not required for parcels zoned Central Commercial and located in Parking District 2.

Table 5.4.a Downtown Parking District Requirements

Zoning	Parking District	No Parking Required	In-lieu Allowed	Off-site Allowed
Central Commercial (C-C)	District 1 & 3	X		
Central Commercial (C-C)	District 1 & 3		X	X
Central Commercial (C-C)	District 2	X		
Central Commercial (C-C)	None		X	X
Commercial Service (C-S)	District 1, 2, or 3	X		
Commercial Service (C-S)	None			X
Mixed-Use All (M-U)	District 1, 2, or 3		X	

Source: City of Davis

Figure 5.4.a: Downtown Parking Districts



PARKING IN-LIEU FEES

Davis has an in-lieu fee programs that allows developers to avoid building required parking by paying a fee of $4,000 per space. The City can use funds collected from this fee to acquire and/or develop on-street or off-street parking and related facilities determined by City Council to alleviate the need for parking spaces in Downtown Davis. Parking facilities developed using fee proceeds must be available to the public and located in or near commercial districts of the city. An evaluation of parking in-lieu fees and procedures was completed in June 2016. City council received a recommendation that requirements for parking, either on-site or through payment of in-lieu fees, be established consistently across the downtown C-C and M-U zoning districts, which is not the case in the existing Downtown Parking Districts. Changes to in-lieu fee program are deferred until after the update of the Downtown Davis Plan.

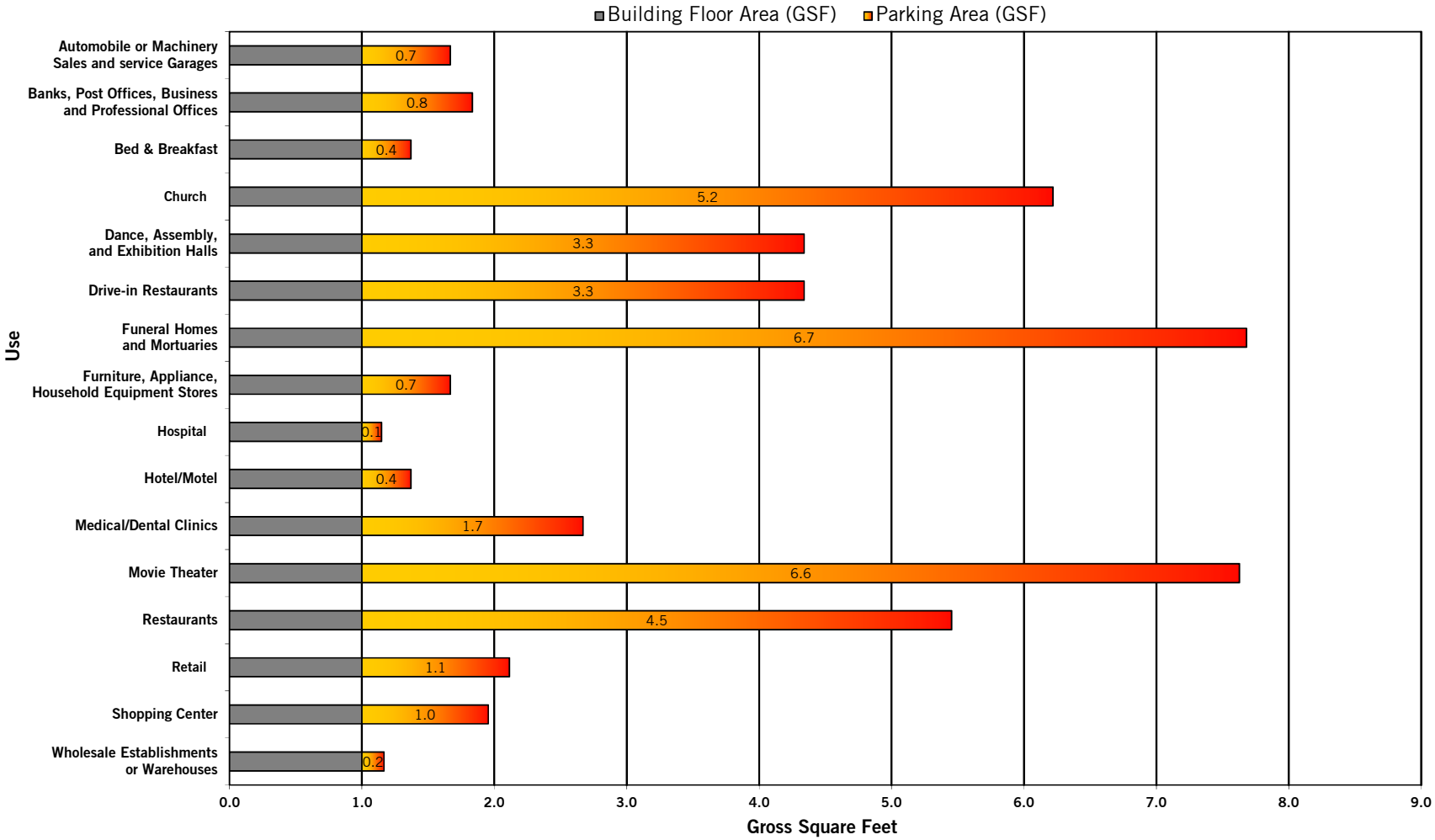
OFF-STREET MINIMUM PARKING REQUIREMENTS IN THE MUNICIPAL CODE

The downtown parking districts are overlays to citywide zoning districts, each of which have specific minimum parking requirements. Currently, no land uses are subject to maximum parking requirements (i.e., limits on the number of spaces allowed). City of Davis Municipal Code 40.25.090 summarizes off-street minimum parking requirements by citywide land use category, for all districts but the Mixed Use and Central Commercial districts. Requirements for non-residential uses vary widely and are determined based on a variety of characteristics (e.g. square feet, seats, or beds), but they generally range from two to five spaces per 1,000 square feet of building floor area. For residential uses, the code requires at least one space per dwelling unit.

New development and changes of use in existing buildings are subject to minimum parking requirements set forth in the Municipal Code. As shown in Figure 5.4.b, existing regulations applicable to most parts of the City frequently require new development and changes of use to devote significantly more space to parking than to buildings themselves, often requiring more than one square foot of parking area for every square foot of building space. This is especially true for uses that help create vibrancy and life (restaurants, movie theaters, etc.). For example, under Davis' typical regulations for areas outside of Downtown, converting an existing vacant building into a restaurant requires construction of approximately 4.5 square feet of asphalt for parking for every one square foot of built space.

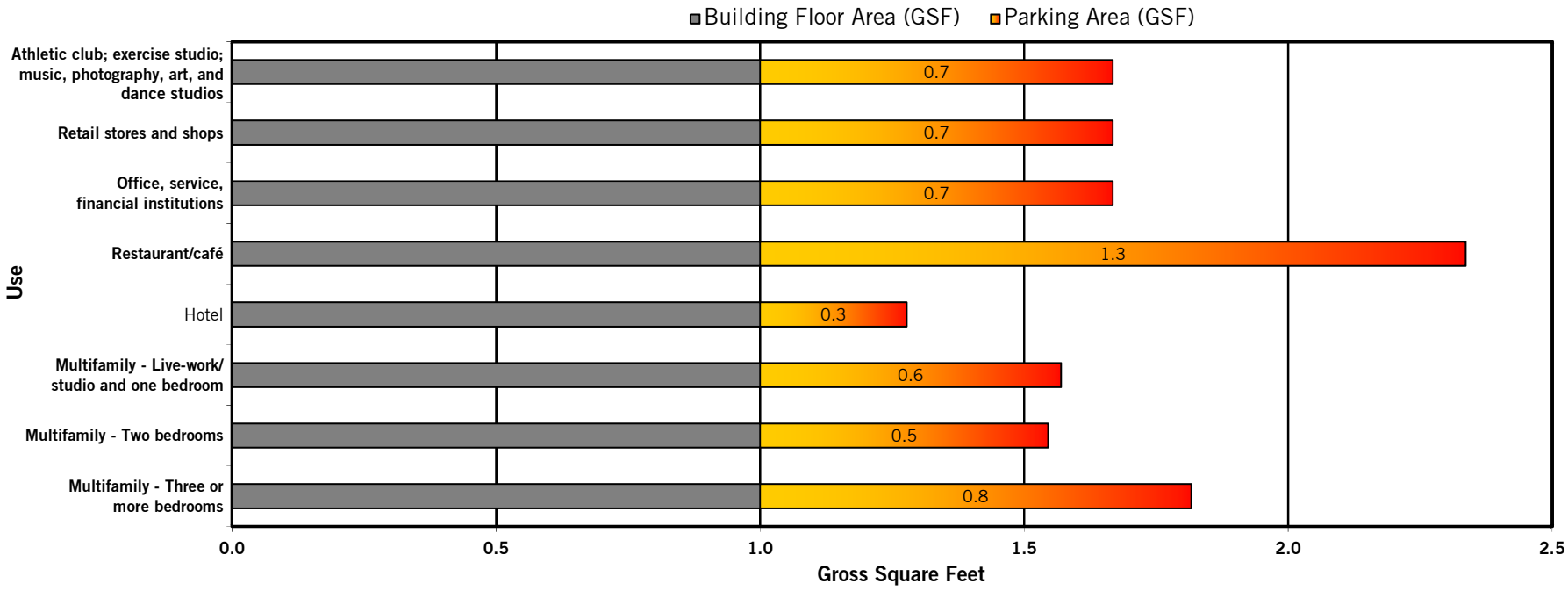
The Central Commercial (C-C) District and Mixed-Use (M-U) District cover a large portion of Downtown Davis (Core Area). Regulations applicable to these districts do not require as much parking as the citywide requirements for most uses. In the Central Commercial District (Figure 5.4.c), for example, complying with regulations for retail stores requires approximately 0.7 square feet of parking area for every square foot of building space. However, regulations for restaurants require approximately 1.3 square feet of asphalt for every one square foot of building space.

Figure 5.4.b: Ratio of Parking Area to Building Floor Area under Davis' Citywide Standard Minimum Parking Requirements



Source: City of Davis Municipal Code, 40.25.090

Figure 5.4.c: Ratio of Parking Area to Building Floor Area under Minimum Parking Requirements for the Central Commercial (C-C) District



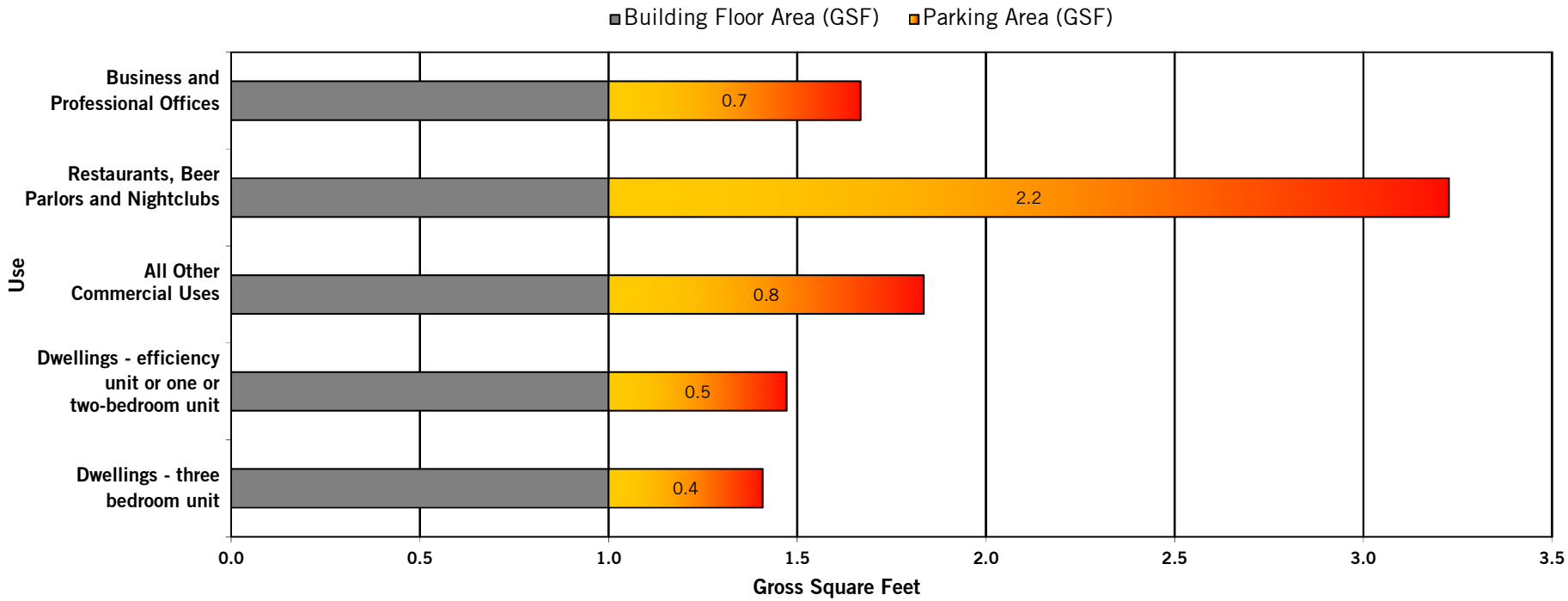
Source: City of Davis Municipal Code, 40.14.090

Parking regulations for the Mixed-Use District (Figure 5.4.d) are often similar to the Central Commercial District. For example, the space required to comply with regulations for most commercial uses in this district is approximately 0.8 square feet of parking area for every square foot of building space. However, restaurants, beer parlors, and nightclubs in the Mixed-Use District typically need to devote more than two square feet of space to parking for every square foot of built space.

Importantly, as described earlier, significant exceptions apply to these general parking regulations for the Central Commercial and Mixed-Use Districts. For example, parking is not required for parcels zoned Central Commercial and located in Parking District 2. For parcels zoned Central Commercial and located in Parking Districts 1 or 3, parking is not required for changes in use, and additions to structures have the option of satisfying the regulations by paying in-lieu of parking fees.

Parcels zoned Central Commercial that are not located within a Parking District also have the option of satisfying parking regulations by paying in-lieu of parking fees. Similarly, parcels zoned Mixed-Use have the option of satisfying parking regulations by paying in-lieu of parking fees.

Figure 5.4.d: Ratio of Parking Area to Building Floor Area under Minimum Parking Requirements for the Mixed-Use (M-U) District



Source: City of Davis Municipal Code, 40.15.090

5.5 Parking Ratios

The minimum parking requirements in Downtown Davis demonstrate how space for parking is allocated based on land use. Incorporating the actual built supply and parking occupancy into this analysis will provide a comprehensive overview of how space is actually allocated and used. Table 5.5.a shows peak parking occupancy ratios in selected mixed-use districts throughout California, Oregon, and Washington.

- **Actual Peak Parking Occupancy/1,000 SF** is the ratio of the number of occupied parking spaces (both on and off-street) during the peak hour to the non-residential built space.
- **Minimum Requirement/1,000 SF or Actual Built Supply/1000 SF** shows the ratio of the total number of parking spaces (both on and off-street) to non-residential built space.
- **Parking Unused at Peak Hour/1000 SF** is the ratio of number of parking spaces that are unused during the peak hour (both on and off-street) to non-residential built space.

Compared to the minimum requirement/actual built supply ratio of other cities (column three of Table 5.5.a), the City of Davis has high ratios of non-residential uses (e.g. a ratio of 6.6. for movie theaters). The central commercial and mixed-use districts (districts within the Downtown) have lower parking ratios for non-residential uses (e.g. a ratio of 2.2 for restaurants, beer parlors, and nightclubs in the central commercial district). The land use data required to determine this ratio for actual built supply in the Downtown Davis was not available at the time of writing this report. This data will become available later on in the project, at which time, the project team will calculate the same ratios shown in Table 5.5.a for the study area.

Table 5.5.a Actual Peak Parking Occupancy Rates Versus Built Supply in the Study Area

City	Actual Peak Parking Occupancy / 1,000 SF	Minimum Requirement / 1,000 SF or Actual Built Supply / 1000 SF	Parking Unused at Peak Hour / 1000 SF
Soledad, CA	1.21	4.21	3.00
Beaverton, OR	1.85	4.21	2.30
Lancaster, CA	1.37	3.67	2.30
Tiburon, CA	2.64	4.59	1.95
Ventura, CA (Westside)	1.26	2.87	1.61
Redmond, WA	2.71	4.10	1.39
Hillsboro, OR	1.64	3.00	1.36
Chico, CA	1.70	3.00	1.30
Bend, OR	1.80	3.00	1.20
Salem, OR	2.04	3.15	1.11
Sacramento, CA	1.18	2.19	1.01
Santa Monica, CA	1.80	2.80	1.00
Monterey, CA	1.20	2.14	0.94
Watsonville	1.09	1.87	0.77
Seattle, WA (SLU)	1.75	2.50	0.75
Oxnard, CA	0.98	1.70	0.72
Palo Alto, CA	1.90	2.50	0.60
Kirkland, WA	1.98	2.50	0.52

Source: Nelson\Nygaard

5.6 Wayfinding

Wayfinding signage and a variety of online tools help drivers navigate to off-street parking in Downtown Davis. Private sector websites such as ParkMe.com and Parkopedia.com also provide some, albeit not comprehensive, information about the location, time restrictions, and cost of both on- and off-street parking. The Davis Downtown website includes a wide range of information about where to park (e.g. locations, time restrictions, permit information) and how to park (e.g. costs, the re-parking regulation, citation information). The website also provides both interactive and static parking maps.

Getting Around Davis provides information about a range of travel options to, from, and within downtown Davis, including driving. Parking information on the site includes some helpful parking tips about the best times to visit downtown. The website also provides an interactive map, but the tool was not compatible with all web browsers as of November 2017.

Current wayfinding signage throughout Downtown Davis uses several different design approaches, reflecting a few different wayfinding initiatives. The City is in the process of developing a new parking guidance system for downtown. The system will include an interconnected set of parking sensors and LED parking availability display signs at all City-operated off-street parking lots and garages, including the Fourth and G Garage. The project will also include a monument sign at the First/Richards intersection to help drivers begin efforts to locate off-street parking upon entry to the Downtown area. A memo describing the key functionalities of the system is included in Appendix 6.

Wayfinding signage throughout Downtown Davis directs users to off-street parking lots. Source: Nelson\Nygaard

OPERATIONS AND ENFORCEMENT

The City's Parking Enforcement Unit is a subsidiary of the Police Department. Officers patrol Downtown Davis between 8 a.m. and 6 p.m., to enforce parking time limits and permitted areas using motorized scooters. Scooters are equipped with license plate reader (LPR) technology capable of reading license plates and electronically determining parking violations.

Four full-time employees (FTEs) are dedicated to parking operations and enforcement-one FTE is a parking supervisor who also oversees code enforcement, and three FTEs are parking enforcement officers. On average, two parking officers are conducting enforcement at any given time.

Some aspects of operations or enforcement are contracted out to private contractors. The department contracts with T2 Systems for citation billing, collections, and appeals, as well as parking permit management. T2 contracts with another vendor-Citation Collection Services-for citation billing and collections.

Downtown Parking Fund (Fund 209) revenues and expenses for fiscal year (FY) 2017 and FY 2018 are shown in Table 5.6.a. These figures do not include all parking related expenses or revenues from citations. Parking lot fees are the major revenue source. Downtown Parking Improvements-which includes construction costs-is the largest expense category.

Table 5.6.a Downtown Parking Fund (Fund 209) Revenues & Expenses

Source	FY 2017 (Actual)	FY 2018 (Budgeted)
Revenues	$91,900	$98,500
Investments	$1,200	$2,500
Parking lot fees	$90,700	$96,000
Expenses	$116,900	$99,200
Community Outreach	$20,500	$32,100
E Street Plaza Paystations	$13,200	$20,100
Parking Enforcement	$5,000	$5,000
Downtown Parking Improvements	$78,200	$42,000
Deficit/Surplus	- $25,000	- $700

Source: City of Davis

5.7 Transportation Demand Management

TDM strategies and programs can encourage the use of non-drive-alone modes and reduce parking demand. The City has some TDM requirements in place, and there is a history of TDM implementation in the area.

TDM REQUIREMENTS FOR PRIVATE DEVELOPMENTS

The City's municipal code establishes TDM requirements for employers located in Davis. The purpose of these requirements is to promote commuting options, reduce peak period traffic and congestion, and decrease the number of single-occupant vehicles trips.

Major employers (100 employees or more) are required to obtain a transportation management certificate by filing a transportation management plan that includes a goal of increasing average vehicle occupancy to at least 1.5 employees per automobile during peak commuting periods. Smaller employers (10 to 99 employees) and apartment complexes are to distribute and post information on commuting by transit, bicycle, and on-foot.

The City also requires that developers incorporate transportation options into new residential developments. New residential development proposals are to be designed to further the goals of this requirement. Transit access and design features that encourage ridesharing, walking, and cycling are considered all new residential proposal applications. City code also calls for a TDM program that provides new or relocated residents with information on alternatives to driving. Finally, apartment complexes are also encouraged to post information on alternate transportation modes for building tenants[1].

PROGRAMS

The Yolo TMA serves the Yolo County area, including Davis (see "Yolo Commute" website at www.Yolocommute.net).

The City of Davis developed the Getting Around Davis website to provide information about travel options to, from, and within downtown Davis as a result of a recommendation from the 2014 Parking Management Plan. This recommendation also called for a public outreach campaign, but that was deemed beyond existing staff resources. While the website provides some useful information for Davis residents, employees, and visitors, the site lacks tools and information about carpools and vanpools.

While there is not a discounted transit pass program specific to the Downtown Davis, Unitrans-the local bus agency-offers annual ($180), quarterly ($64), and monthly ($25) passes that provide unlimited access to the system. UC Davis students and City of Davis employees with valid ID cards can ride Unitrans for free.

1 City of Davis. "Davis Municipal Code." Article 22.15 Transportation Systems Management Requirements. <http://qcode.us/codes/davis/?view=desktop&topic=22-22_15-22_15_030>

5.8 Travel Behavior and Household Vehicle Ownership

United States census data on vehicle ownership show that households in all owner-occupied and renter-occupied units in the Downtown Davis own at least one vehicle[3] Table 5.8.a shows how vehicle ownership by tenure varies for the Downtown Davis, the City of Davis, Yolo County, California, and the United States. Most households in the Downtown have one vehicle. Across all other geographies, most households have two vehicles.

NATIONAL TRENDS AND IMPLICATIONS

Understanding the relationships between income and vehicle ownership can be helpful in discerning the social equity impacts of specific policy proposals. This section looks at national statistics on the relationships between household income, vehicle ownership, and transportation expenditures. It also looks at some Davis-specific data.

Regardless of income, the majority of households across the country own or lease at least one vehicle (Figure 5.8.a). There is a positive relationship between these two variables-the higher the household income, the more likely the household owns or leases at least one vehicle.

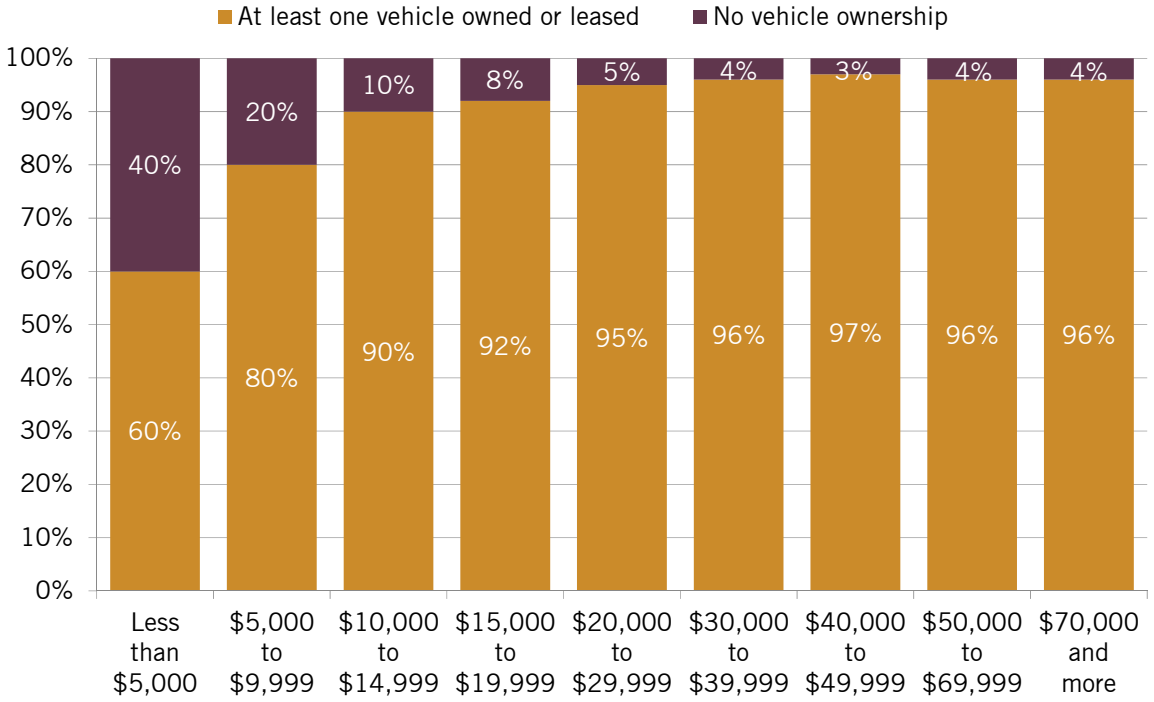
3 United States Census Bureau / American FactFinder. "B25044 : Tenure by Vehicles Available." 2011 – 2015 American Community Survey. U.S. Census Bureau's American Community Survey Office. <http://factfinder2.census.gov>

Table 5.8.a Number of Vehicles per Household by Housing Tenure

Number of vehicles per household	Core Area	City of Davis	Yolo County	California	United States
None	0%	12%	8%	8%	9%
One	69%	17%	33%	32%	34%
Two	27%	48%	37%	37%	37%
Three or more	4%	24%	22%	23%	20%

Source: 2015 American Community Survey, 2015 5-year estimates

Figure 5.8.a: National Vehicle Ownership by Income Level, 2016



Source: Consumer Expenditure Survey, 2016

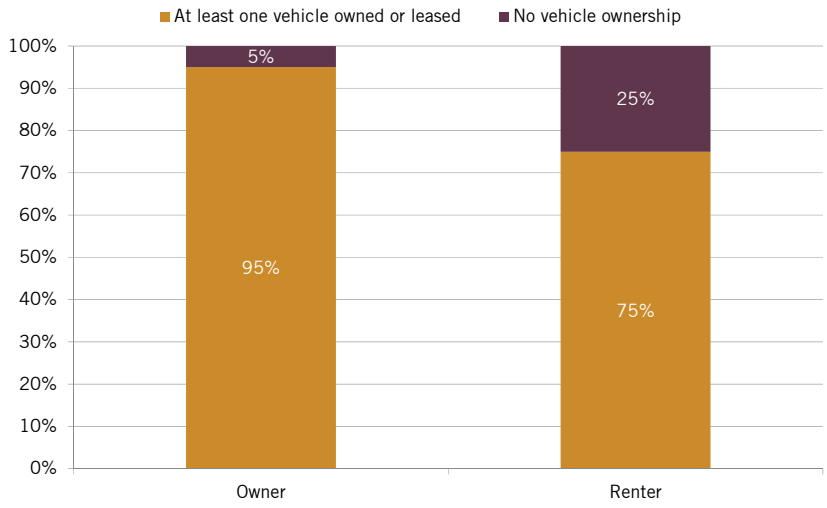
Nationwide, homeowners are also more likely to own or lease at least one vehicle than renters (Figure 5.8.b). This trend holds true for the City of Davis but not the Downtown Davis, where a larger share of renters than owners have access to more than one vehicle.

Although fewer low-income households than higher income households own or lease a car, low-income households spend a greater share of earned income on transportation (Figure 5.8.c).[4] In the Downtown Davis, the percent of income spent on transportation is higher than the national average. Developed by the Center for Neighborhood Technology, the Housing and Transportation Affordability Index shows the average percent of household income spent on housing and transportation. Households within the Downtown have an average annual salary of $60,000 and spend approximately 19% of their household income on transportation[5]

4 U.S. Department of Labor. "Table 1203: Income before taxes". Consumer Expenditure Survey, 2016. Bureau of Labor Statistics. <https://www.bls.gov/cex/2016/combined/income.pdf>.

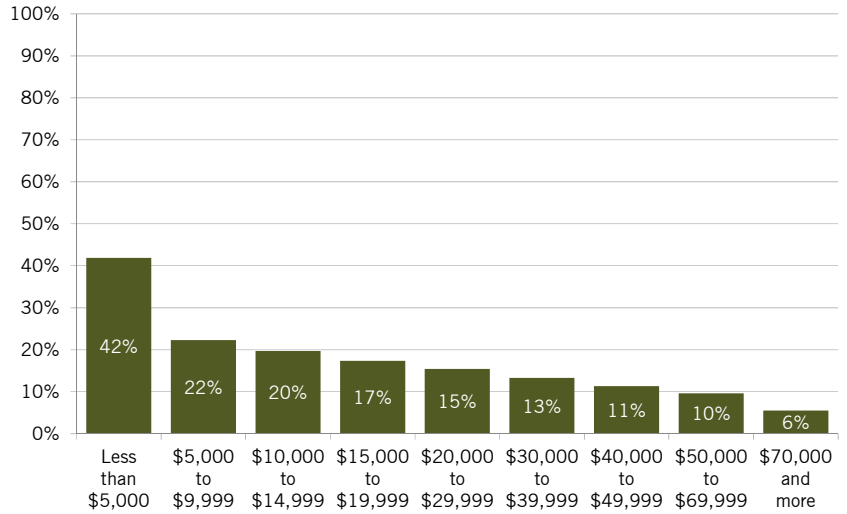
5 Center for Neighborhood Technology. "H+T+ Affordability Index." Block Group 061130107014. <https://htaindex.cnt.org/map/>

Figure 5.8.b: National Vehicle Ownership by Housing Tenure, 2016



Source: Consumer Expenditure Survey, 2016

Figure 5.8.c: National Transportation Expenditures as a Percentage of Mean Income before Taxes, 2016



Source: Consumer Expenditure Survey, 2016

5.9 Emerging Trends and Technologies

The transportation world is changing rapidly, with new modes and a set of broad trends emerging in recent years.

Ride Hailing and Ride Sharing

Ride-hail services such as Lyft and Uber (also known as transportation network companies, or TNCs), and carpool services, such as Carma, Scoop, and Waze Carpool have been gaining popularity in Northern California and around the world. Colleges and universities have generally been early adopters of these types of technologies in the past, making surrounding towns and cities a ripe market for these services. These on-demand services make it easier for people to live car-free and share rides with others, which can reduce the need for people to drive themselves and park at trip origins and destinations. There is also some evidence that ride hail services may be increasing vehicle miles traveled (VMT) overall in areas where adoption rates are highest.

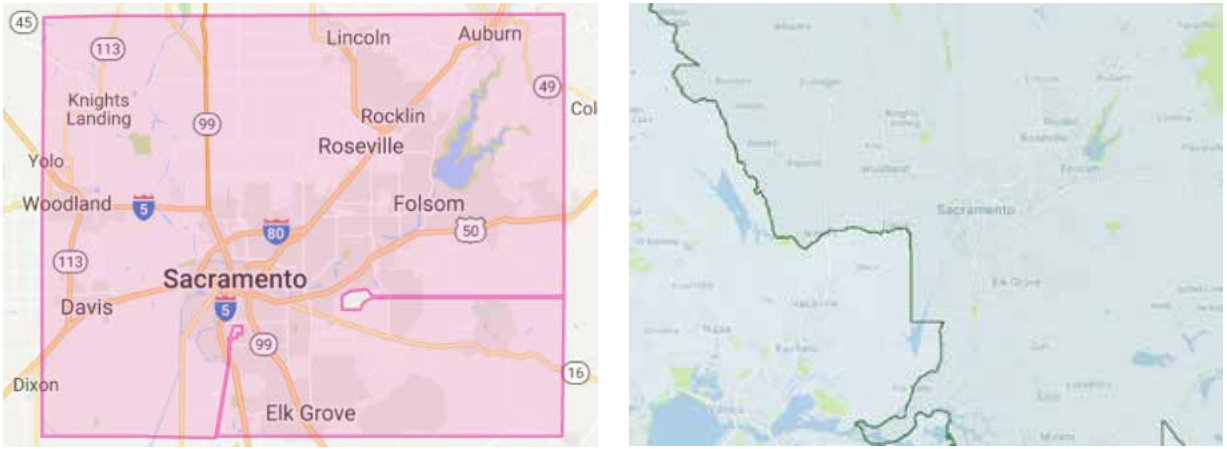
Autonomous Vehicles

The growing research and development activity around autonomous vehicle (AV) technology has recently started to show results, with AV pilots taking place in a number of cities across the United States and around the globe. Once driverless vehicles are available for widespread consumer use, they are expected to steadily gain market share and carry a major portion of motorized passenger travel within two or three decades[6]. The exact timeline will not be clear for some years, given unknowns about the technology itself and the regulatory efforts that will shape it.

6 A range of technology and transportation theorists estimate driverless vehicles will have 70% to 90% penetration in the market for motorized travel sometime between 2035 and 2055, including:

Rocky Mountain Institute (2016). Estimates from "Peak Car Ownership: The Market Opportunity of Electric Automated Mobility Services retrieved from https://rmi.org/insights/reports/peak-car-ownership-report and http://www.aon.com/japan/product_services/by_specialty/reinsurance/report/20160911-ab-analytics-gimo.pdf and

McKinsey & Company (2015 June). Ten ways autonomous driving could redefine the automotive world retrieved from https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/ten-ways-autonomous-driving-could-redefine-the-automotive-world



Davis is included in the Sacramento service area of both Lyft (left) and Uber (right). The Lyft Sacramento service area is much smaller than the Uber Sacramento service area, which extends from Yosemite National Park to the northern border of California., Source: Lyft and Uber

The ride hail companies, automobile manufacturers, and a variety of start-up companies have also begun developing fleets of AVs, with some limited proof-of-concept deployments in the last year. Fully autonomous vehicles could make shared auto services like ride-hail and car share far less expensive than they are today, which could vastly increase the use of these services. That, in turn, could result in lower levels of car ownership and reduced parking demand.

If a more traditional car ownership model prevails in the era of autonomy, parking demand would be unlikely to decrease much. However, in this scenario, it may be easier to more efficiently use space dedicated to parking if passengers can exit vehicles at a building's front door rather than in a parking facility (eliminating the need for pedestrian circulation space) and if vehicles can communicate with each other (reducing the need for vehicle circulation space). These emerging trends could and most likely will have an impact on the physical design of Downtown Davis, as the adoption of these new technologies can be expected to reduce parking demand and free up space for other uses.

Autonomous vehicle technology could also lead to vast shifts in the way transit services operate. Labor often represents about 80% of transit operating costs, and while eliminating bus and paratransit driver jobs would have major societal implications, doing so would substantially reduce the cost of transit service. This would enable transit agencies to run more service or operate service more flexibly. Smaller autonomous transit vehicles, along the lines of eight-passenger shuttles that are being piloted in Las Vegas as of November 2017,[7] could also make it more cost efficient than it is today to provide last-mile connections to facilities like the Davis Capital Corridor station.

7 https://techcrunch.com/2017/01/11/las-vegas-launches-the-first-electric-autonomous-shuttle-on-u-s-public-roads/

Uber has over 40 autonomous vehicles operating within Phoenix, AZ and Pittsburgh, PA, Source: Uber

An autonomous shuttle in Las Vegas operates between 11 a.m. and 7 p.m. six days a week., Source: Vital Vegas Blog

5.10 Chapter Summary of Findings

OVERVIEW

This chapter covered existing parking and TDM conditions in the Study Area.

OPPORTUNITIES

Existing policies support implementing additional transportation demand management programs and parking management measures.

The existing policy framework encourages the City to implement alternative solutions for managing parking demand before building more parking. Potential alternatives to building new parking facilities include instituting parking pricing, better enforcement, and reducing demand through better transit access and other transportation demand management (TDM) strategies.

High utilization rates for City-operated parking indicate a need for parking management measures beyond the current approach.

Paid parking is one of the most effective parking management tools, if done strategically. An earlier parking study called for changes to the City's parking management approach. In an effort to implement these changes, the city recently approved paid parking in the SE quadrant of Downtown.

With 3,100 spaces, parking takes up lots of space downtown.

In total, the Downtown Davis (Core Area) contains approximately 3,100 parking spaces, including 2,154 City-operated and an estimated 900 private parking spaces. Overall, approximately 38% of the supply is located on-street (1,159 spaces), approximately 22% in two parking structures (686 spaces), and approximately 40% is located in numerous off-street lots (approximately 1200 spaces).

CONSTRAINTS

Off-street parking requirements for properties within the Downtown Davis are complex and may be confusing.

Current off-street parking requirements imposed by the City are determined by three primary factors: parking district, zoning, and land use. This multilayered regulatory framework can make it difficult to understand which requirements are applicable in which portions of Downtown Davis.

The City-operated parking supply is near capacity under the City's current parking management approach.

The peak parking occupancy measured for the City-operated parking supply occurred on a Friday evening between 6:30 and 7:30 p.m. in spring 2016, when 91% of City-operated spaces were occupied. At peak hours, numerous blocks of curb parking and City-operated lots fill up, while spaces remain available in less visible and less easily accessible lots and garages. (Comparable occupancy data for private parking is not available.) These high utilization rates for City-operated parking indicate a need for management measures beyond the existing approach of setting time limits and ticketing those who overstay them.

TDM programs and services are limited in Downtown Davis.

TDM programs and services for Downtown Davis are currently limited. While a recently developed website, Getting Around Davis, provides some information about parking, bicycling, and public transit, the City currently lacks a robust area-wide program that truly incentivizes the use of non-auto modes. Several economically-successful downtowns of a size similar to Davis (e.g. Boulder, Colorado) have implemented TDM programs in recent years and achieved significant reductions in vehicle use, often freeing up parking formerly used by employees for use by customers. There are a number of programs in the region that can provide examples and inspiration for a more robust commitment to TDM downtown, including the efforts of the University of California, Davis and the Sacramento Transportation Management Association (TMA).

AREAS FOR FURTHER STUDY

New transportation technologies have the potential to impact parking demand.

The extent to which new transportation technologies, such as ride-hail services and autonomous vehicles (AVs), will change travel behavior and reduce parking demand over the long-term is unknown at this point. However, the rapid growth of Lyft and Uber and massive private investments in AV technology likely mean we will see more shifts in travel behavior in the coming years. If, as many analysts predict, AVs are heavily adopted as part of centrally owned and managed shuttle and taxi fleets, rather than as private mobility resources along the lines of how automobiles are used today, the future will see major drops in parking demand. The Downtown Specific Plan will need to factor this into considerations of how to manage parking and whether to build additional supply.

Implementing other technologies, such as wirelessly-networked smart parking meters (which accept credit and debit cards as well as clients, and which allow additional time to be added remotely, among other capabilities) and making use of them to adopt performance-based parking pricing (i.e., demand-based pricing which may vary by time of day, day of week, and/or season) may also allow the City to make better use of existing parking, making it possible to meet downtown parking needs without building as many physical spaces. As part of current work underway on implementing the Council's direction to implement paid parking in the Southeast quadrant of Downtown, the City is currently evaluating the various smart meter technologies available.

This page intentionally left blank.

Infrastructure 6 chapter

Author: Lotus Water

6.1 Regional Context, Resources and Infrastructure

WATERSHED AND PUTAH CREEK

History

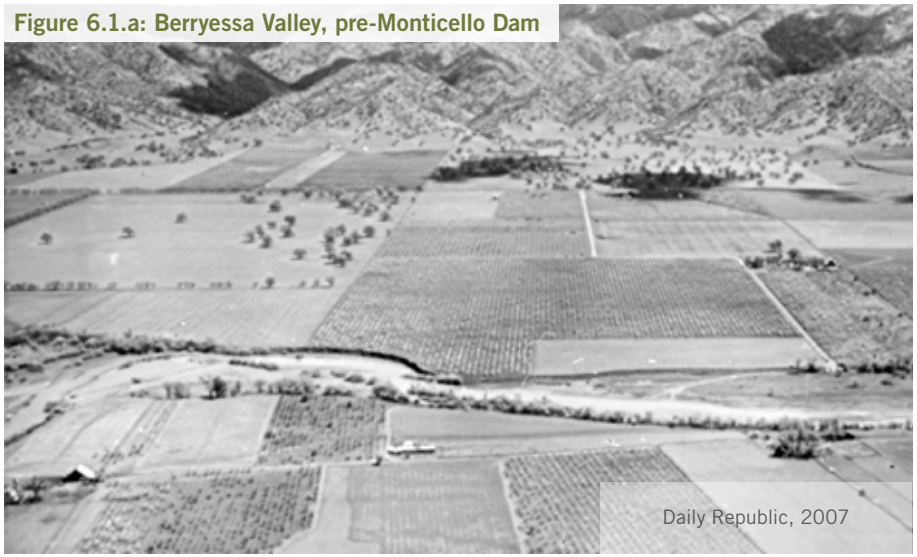
The City of Davis (City) lies within the Sacramento Valley (Valley). The Valley is a rich mosaic of farmlands, cities, small communities, managed wetlands, and a vast network of meandering rivers, streams, canals, and agricultural drains (see Figure 6.1.a). The Valley is not a watershed in itself but rather the terminus and conglomerate of many individual tributary watershed areas. The most significant watershed in relation to the City is the Putah Creek watershed as shown in Figure 6.1.c.

Putah Creek begins from springs on the eastside of Cobb Mountain and is one of the major features of the Valley. Putah Creek travels roughly 70 miles east where it eventually feeds the Yolo Basin, a natural depression formed on the Valley floor after the last Ice Age.

Putah Creek's watershed encompasses parts of Lake, Napa, Solano, and Yolo counties. The upper watershed is roughly 576-square miles and receives over 90% of the precipitation which falls in the watershed. Historically, Putah Creek frequently overflowed its banks during high flow events in winter and spring and elevated groundwater elevations within the Putah Basin often contributed to seasonal floods. This hydrology was characteristic of the region and during periods of high snowmelt and rainfall, much of the Central Valley became inundated, forming an extensive inland sea that over the course of months would drain towards the south through a vast array of wetlands and non-tidal marshes into the north delta (see Figure 6.1.b). Within the delta, permanent bodies of water persisted in the Cache Creek and Putah Creek Sinks. Before construction of the Monticello Dam and the subsequent water regulation, the streams annual discharge into the Yolo Basin was approximately 359,000 acre-feet (Central Valley Habitat Joint Venture, 1993).

Putah Creek used to flow near Downtown Davis in what is now the UC Davis Arboretum channel, but in 1871 early settlers redirected it to run south of the City. Putah Creek was further modified in the late 1940s by the Army Corps of Engineers who added levees to what is now referred to as the South Fork Putah Creek. In 1957 the U.S. Bureau of Reclamation constructed Monticello Dam. The resulting reservoir (Lake Berryessa) has a capacity of 1.6 million acre-feet, which is approximately four times the average annual runoff of the Putah Creek and greatly decreased peak flows and discharge to the Yolo Basin (U. S. Army Corps of Engineers and CALFED Bay Delta Program, 2002). This was followed by the construction of nine miles of levees along the lower Creek channel. Downstream, regular flooding in the Valley led to the

Figure 6.1.a: Berryessa Valley, pre-Monticello Dam

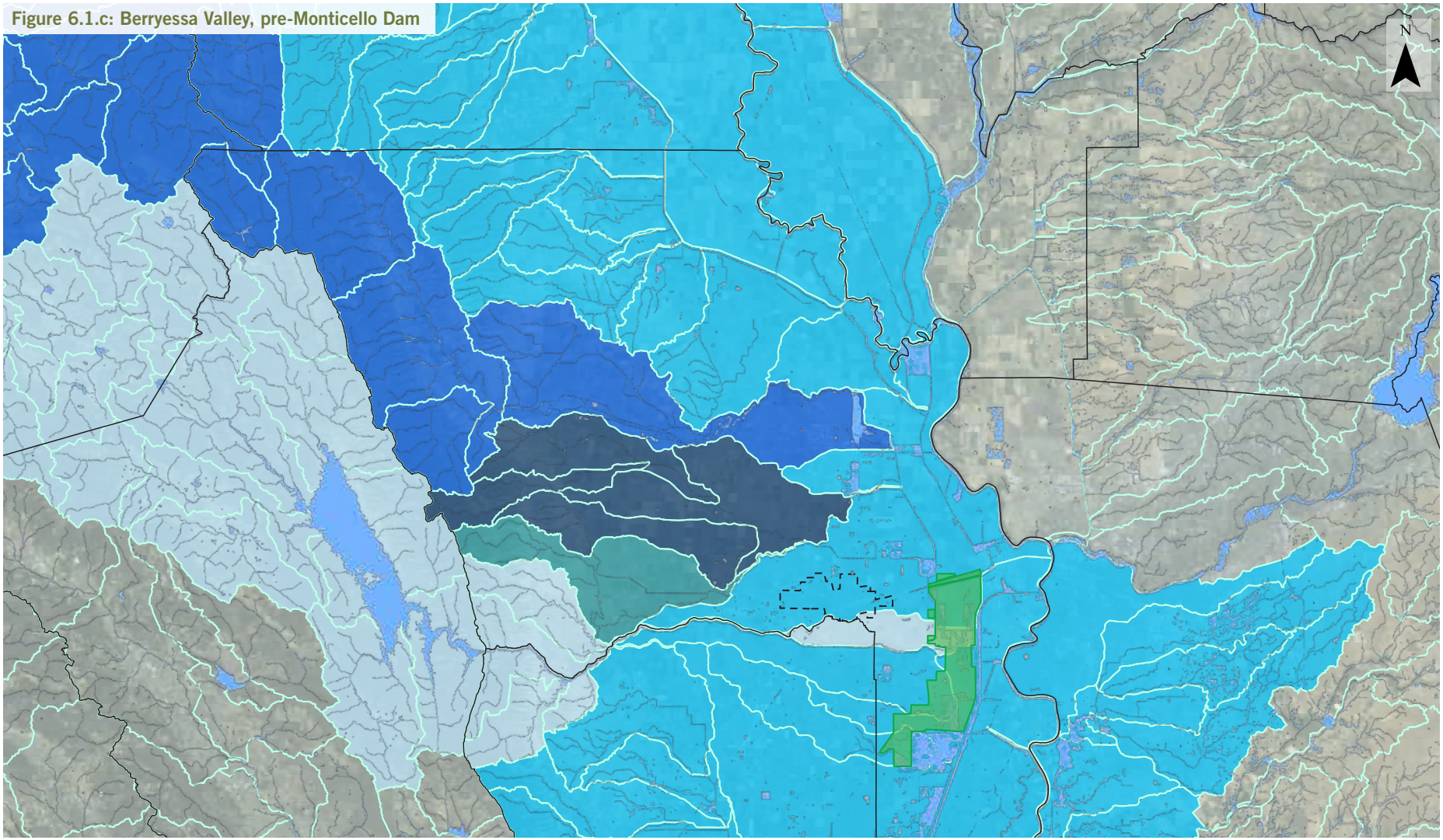


Daily Republic, 2007

Figure 6.1.b: Historical Map of Putah Creek (1855)

Delta Revision

Figure 6.1.c: Berryessa Valley, pre-Monticello Dam



construction of the Sacramento Flood Control Project that converted the natural Yolo Basin into the 59,000-acre weir regulated Yolo Bypass (Bypass). The Bypass, just east of the City, is 41 miles long and is surrounded completely on the east and partially on the west by levees constructed by the U.S. Army Corps of Engineers. (1917 Sacramento Weir, 1924 Fremont Weir). Since the 1950s there has been no significant change in channel alignment downstream of Lake Berryessa and flood risk in Downtown Davis from Putah Creek is minimal.

Current Condition

Today the Putah Creek's flow pattern is a factor of water storage behind the Monticello Dam and spring through fall irrigation releases. Putah Creek tends to produce few high-flow events and flows from Monticello Dam are high in summer and low in winter in all but the wettest years.

The old North Fork of Putah Creek (east of Interstate 80) no longer contains flowing water because it has been diverted into the South Fork for flood control.

Water still flows in the South Fork which runs through the UC Davis campus eastward and terminates in the Putah Creek Sinks, within the Bypass. Until 2000, flows near the City were very low during summer and fall, generally 0 to 60 cubic feet per second (cfs).

Figure 6.1.d: FEMA Flood Risk Zones

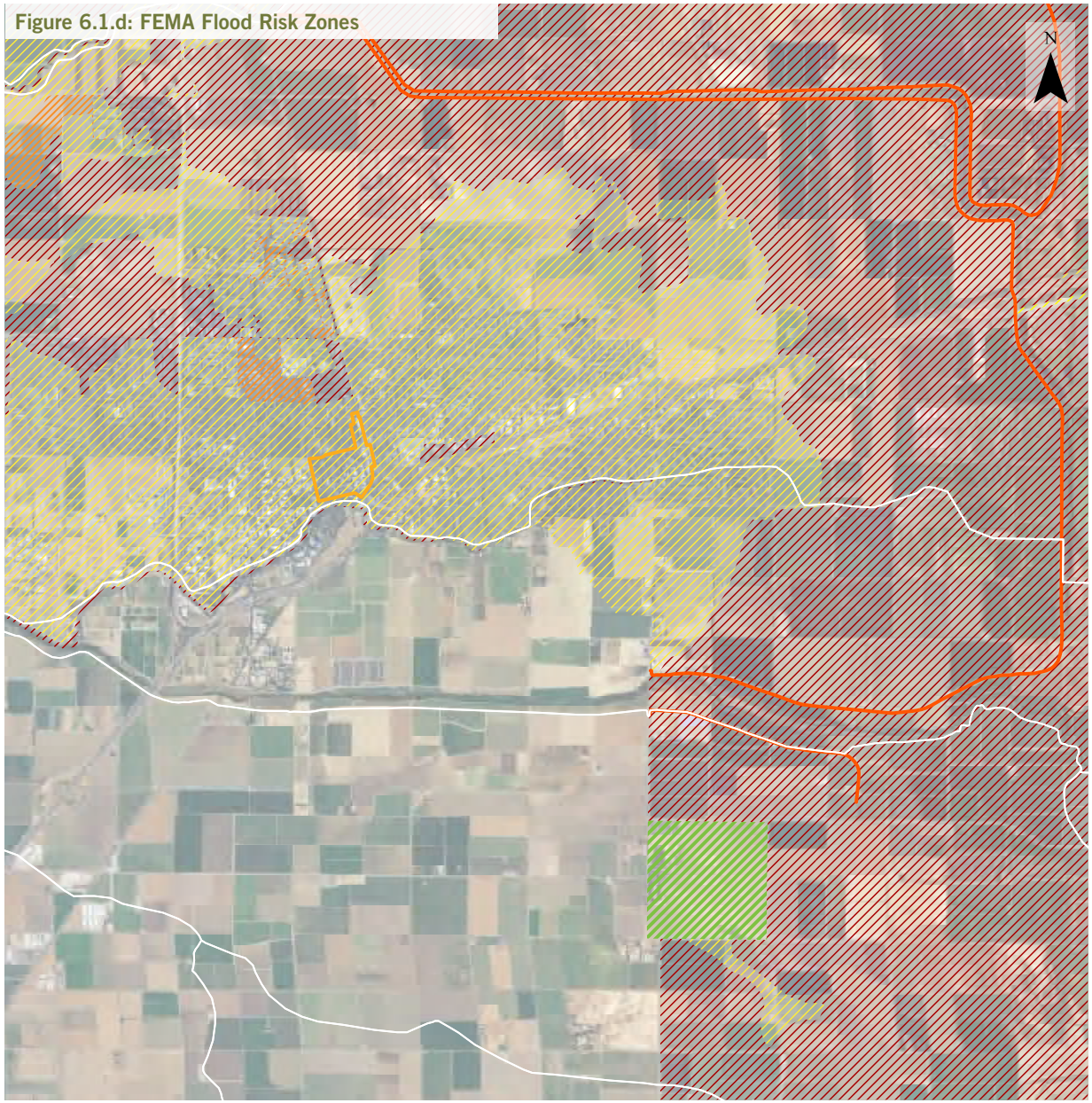


Figure 6.1.e: NRCS Soil Classification

Following extensive litigation, now roughly 32,000 acre-feet per year is required to be passed below the dam for environmental purposes. Another 200,000 acre-feet of Putah Creek water per year is diverted to Solano County farmers (about 75%) and urban users (about 25%) (Sacramento River Watershed Program, 2017)

In addition to the South Fork of Putah Creek, the City drains via the Willow Slough, Dry Slough, as well as the Mace and El Macero drainage channels to the Yolo Bypass.

Willow Slough is a small watershed running from the Blue Ridge in the coast range eastward toward the Yolo Bypass. The watershed is unregulated and produces many small peak runoff events that do not pose a significant flood risk to the City.

Relevance

The City was established north of the original streambed of Putah Creek. Flooding could be caused by Putah Creek and other waterways overflowing their banks. However, because the City was built on a high plain, relative to the surrounding valley, the FEMA designation for the majority of the City is 'Minimal Flood Hazard,' which is above the extent of the 100-year flood zone, but within the 500-year flood zone (i.e. a 0.2% chance of flooding on an annual basis). According to the FEMA flood zone maps, some limited parts of the City, and larger parts of the planning area outside the City, are designated 'High Risk Areas' subject to flooding in a 100-year flood. Flood risk hazard generally consists of nuisance or shallow, sheet flooding from surface water runoff in large rainstorms (see Figure 6.1.d).

The City is also in the path of flooding that would occur in the event of the failure of Monticello Dam, about 23-miles west of Davis, or failure of the levees along the Yolo Bypass. However, the Bureau of Reclamation prepared an inundation map that showed, in the event of a failure, flooding in the City would not be significantly greater than in a 100-year flood.

The spatial variation of soils around the City is directly related to the fluvial deposition histories of the nearby streams. Heavy soils (C/D) are found where low velocity waters of Putah Creek deposited material from the Coast Range. Sandier (A/B) soils are found where depositional energies were higher,or where material from the Sierra Nevada was incorporated. Within the Downtown Davis soils vary from moderately sandy to loamy and generally facilitate infiltration of precipitation and stormwater runoff, as shown in Figure 6.1.e (NRCS, 2017).

6.2 Ecological History and Context

HISTORY

The upper Putah Creek watershed above Lake Berryessa was characterized by oak savannahs, rolling hills, and steep terrain. The lower watershed had a vast riparian forest. The riparian forest was dominated by alder, willow, and cottonwood close to Putah Creek, and valley, coast, and interior live oaks farther out. Closer to the City the forest transformed to a vast expanse of tule and swamp.

Following the gold rush farmers began to clear the area for farming. The region's deep, fertile soils and suitable climate was conducive to rain-fed water crops such as wheat and barley. Large-scale irrigation began in 1856 when a dam was built across Cache Creek. Alfalfa was the first major irrigated crop, and over time other specialty crops such as grapes, hops, sugar beets, tree fruits and nut orchards were introduced (City of Davis, 2017).

CURRENT CONDITIONS

Flora

The ecology of the region has changed significantly with the expansion of agriculture and urbanization. Monoculture fields of tomatoes, sunflower seeds, corn, wheat, wine grapes, annual grasslands (previously perennial), and lawn-dominated suburbia dominate the landscape.

Non-native plant species commonly found in the area are eucalyptus, salt cedar, giant reed, Himalayan blackberry, tree-of-heaven, perennial pepperweed, and invasive annual grasses. The predominant invasive annual weeds include star-thistle, Italian thistle, milk thistle, and wild oats.

Fauna

The Putah Creek watershed is home to 220 bird species, 31 butterfly species, 14 species of reptiles and amphibians, and 31 species of mammals. Small mammals such as beavers, squirrels, and raccoons are abundant along the creek, and bears and mountain lions are sometimes spotted. Riparian vegetation is a refuge for wildlife that is otherwise rare or declining in the region, including the giant garter snake, the valley elderberry longhorn beetle, the northwestern pond turtle and Swainson's hawk. An invasive species that is of concern in the watershed is the New Zealand mudsnail (Sacramento River Watershed Program, 2017).

Putah Creek also contains a large number of fish species. While the majority of these are introduced game fish, the creek still supports remnants of the once abundant Central Valley native fish such as hitch, squawfish, Sacramento suckers, and rainbow trout.

Until 2000, Putah Creek flow near the City was very low during summer and fall, generally 0 to 60 cfs. These lengthy dry periods resulted in substantial fish deaths. In May 2000, following 10 years of litigation, the Putah Creek Council, City of Davis, and UC Davis signed on to a historic water accord with the Solano County Water Agency, Solano Irrigation District, and other Solano water stakeholders to establish permanent surface water flows for the 23 miles of creek below the Putah Diversion Dam. Approximately 32,000 acre-feet per year is required for environmental purposes and another 200,000 acre-feet of creek water per year is diverted to Solano County farmers (about 75%) and urban users (about 25%) (Sacramento River Watershed Program, 2017).

Relevance

The surface water features and groundwater in and around Davis, ranging in size from irrigation and drainage ditches to the Yolo Bypass, play key roles in the health of the region's ecological resources. Development patterns can greatly impact water quality and quantity in these water bodies. Toad Hollow Dog Park, eventually discharging to the Yolo Bypass, is the primary receiving water body that can benefit from redevelopment of the City's downtown and stormwater related infrastructure improvements.

Yolo Bypass Area

Existing Agriculture

Davis Wetlands

Yolo Bypass

6.3 Climate

Summers in the City are warm and dry, and winters are cool. Based on historical data obtained from the California Irrigation Management Information System (CIMIS), the City's average monthly temperature ranges from 37 to 92 degrees Fahrenheit, with extremes of 12 and 116 degrees Fahrenheit (see Figure 6.3.a). However, days over 102 degrees Fahrenheit are becoming increasingly common, including 15 such days in 2017, necessitating serious concern about temperature rise and related health, environment and infrastructure issues (City of Davis, 2018)..

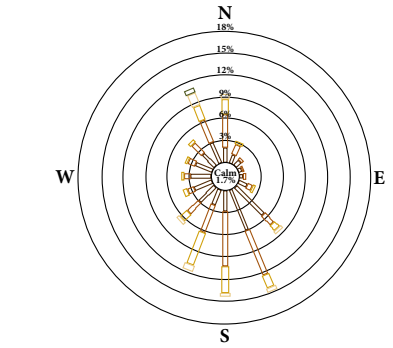
The region is subject to wide variations in annual precipitation. The historical annual average precipitation is 18 inches. The rainy season normally begins in November and ends in March. Evapotranspiration records indicate average monthly values ranging from 1.2 inches in January to 8.3 inches in June and July. Low humidity usually occurs in the summer months, from May through September (Weather Spark, 2017).

The U.S. Bureau of Reclamation and CalAdapt project that the temperature for the Sacramento River Basin will increase by 5 to 6 degrees Fahrenheit over the next 90 years. Climate change may also change precipitation patterns that would result in new surface runoff timing, volume and type.

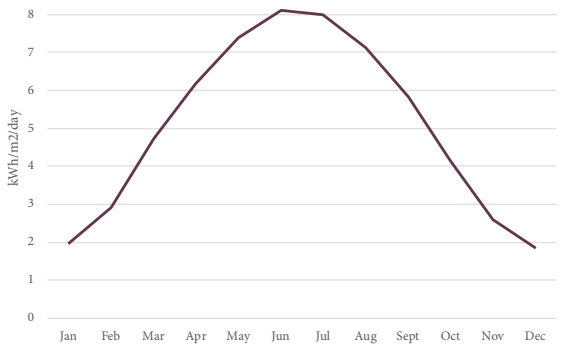
The length of day in the City varies seasonally. In 2017, the shortest day is December 21, with 9 hours, 28 minutes of daylight; the longest day is June 21, with 14 hours, 52 minutes of daylight. The City has an average monthly Global Horizontal Irradiance (GHI) of 5.08 kilowatt hours per square meter per day (kWh/m2/day) (Weather Spark, 2017).

The windier part of the year lasts for roughly five months from March to early September, with average wind speeds of more than 6.9 miles per hour (Weather Spark, 2017)..

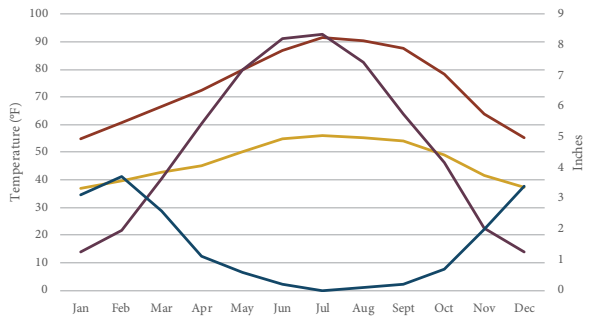
Figure 6.3.a: City of Davis Climate



Wind Rose



Solar Exposure



Monthly Average Climate Data

Avg. Total Rainfall (inches)
Standard Monthly ETo (inches)
Avg. Temperature (F) - Max
Avg. Temperature (F) - Min

Wind Speed (mph)

1.3 - 4
4 - 8
8 - 13
13 - 19
19 - 25

Solar Exposure

Global Horizontal Irradiance kWh/m^2/day

6.4 Summary of Objectives, Policies and Concepts

GENERAL PLAN

The City of Davis's existing General Plan was adopted in 2001 and has been amended through 2016. An update of the General Plan is set to follow the release of the Downtown Davis Plan. Relevant goals and related policies for water and energy from the General Plan are listed on the following page.

DAVIS CLIMATE ACTION AND ADAPTATION PLAN

In November 2010, the Davis City Council adopted the Climate Action and Adaptation Plan (CAAP with Greenhouse Gas (GHG) emission reduction targets, including 28 percent below 1990 levels by 2020, and carbon neutrality by 2050. The 2010 CAAP developed a framework to achieve this. Related objectives in the CAAP include reducing total energy use by 5% (from 2010 levels), producing 5% of the total electricity from renewable on-site and/or local sources which was exceeded tenfold by 2015, and reducing water use by 10% (from 2010 levels).

Phase 1 actions were identified for short-term implementation and were expected to reduce local GHG emissions by approximately 20% over 2010 levels (6.5MT CO2 per person). The City is has conducted two inventories of community greenhouse gas emissions, in 2008 and 2012. New reduction targets may be set when a new inventory and CAAP update is completed. That said, no inventory is currently underway and the targeted 2016 inventory is overdue.

Davis Arboretum Rain Garden Demonstration Project

UC Davis, 2015

Solar Array

Relevant General Plan Policies

Goal WATER 1. Minimize increases in water use. Reduce per capital water consumption by 20% as compared to historic use through programs encouraging water conservation.

- Policy WATER 1.1 Give priority to demand reduction and conservation over additional water resources development.
- Policy WATER 1.2 Require water conserving landscaping.
- Policy WATER 1.3 Do not approve future development within the City unless an adequate supply of quality water is available or will be developed prior to occupancy.

Goal WATER 2. Ensure sufficient supply of high quality water for the Davis Planning Area.

- Policy WATER 2.1 Provide for the current and long-range water needs of the Davis Planning Area, and for protection of the quality and quantity of groundwater resources.
- Policy WATER 2.2 Manage groundwater resources so as to preserve both quantity and quality.
- Policy WATER 2.3 Maintain surface water quality.

Goal WATER 3. Design stormwater drainage and detention facilities to maximize recreational, habitat and aesthetic benefits.

- Policy WATER 3.1 Coordinate and integrate development of storm ponds and channels City-wide, to maximize recreational, habitat and aesthetic benefits.
- Policy WATER 3.2 Coordinate and integrate design, construction and operation of proposed stormwater retention and detention facilities City-wide, to minimize flood damage potential and improve water quality.

Goal WATER 4. Monitor issues in the region that affect quality and quantity of water in the Davis Planning Area.

- Policy WATER 4.1 Research, monitor, and participate in Yolo County and the area of origin of the City's groundwater that affect the quality and quantity of water.
- Policy WATER 4.2 Maintain contact with other appropriate State, Federal and local agencies.

Goal WATER 5. Remain within the capacity of the City wastewater treatment plant.

- Policy 5.1 Evaluate the wastewater production of new large-scale development prior to approval to ensure that it will fall within the capacity of the plant
- Policy 5.2 Provided that the existing plant capacity is not exceeded, require new large-scale development to pay its fair share of the cost of extending sewer service to the site.

Goal ENERGY 1 Reduce per capita energy consumption in Davis.

- Policy ENERGY 1.1 Develop programs to increase energy conservation on the household and business level.
- Policy ENERGY 1.2 Develop a comprehensive program to reduce City government energy consumption.
- Policy ENERGY 1.3 Promote the development and use of advanced energy technology and building materials in Davis.
- Policy ENERGY 1.4 Continue to enforce landscaping requirements that facilitate efficient energy use or conservation.
- Policy ENERGY 1.5 Encourage the development of energy-efficient subdivisions and buildings.

Goal HAZ 1 Provide flood protection which minimizes potential damage, while enhancing recreational opportunities and wildlife habitats and water quality.

- Policy HAZ 1.1 Site and design developments to prevent flood damage.
- Policy HAZ 1.2 Continue to provide flood control improvements that are sensitive to wildlife habitat and open space preservation.

Goal HAZ 2 Minimize risks associated with soils, geology and seismicity in Davis.

- Policy HAZ 2.1 Take necessary precautions to minimize risks associated with soils, geology and seismicity.

Goal HAZ 3. Provide for the safety and protection of citizens from natural and environmental hazards.

- Policy HAZ 3.1 Provide for disaster planning.

Goal TRANS 2. The Davis transportation system will evolve to improve air quality, reduce carbon emissions, and improve public health by encouraging usage of clean, energy-efficient, active (i.e. human powered), and economically sustainable means of travel.

Goal TRANS 3. Davis will provide a safe and convenient Complete Street network that meets the needs of all users, including children, families, older adults, and people with disabilities.

- Policy TRANS 2.3 Apply best practices in sustainability to new streets and redesigns of existing streets/corridors (e.g. LID, shade trees, energy efficient lighting).

6.5 Downtown Davis Infrastructure Existing Condition

WATER SUPPLY

Water Resources

Historically, and until recently, the City relied on groundwater for 100% water supply through the use of twenty groundwater wells. The wells drew water from the deep and intermediate aquifers beneath the City at depths ranging from 210 to 1,760 feet below ground surface (City of Davis Groundwater Management Plan, 2005).

In June 2016 the City transitioned to receiving surface water from the Sacramento River. Following the addition of surface water, the City is continuing to actively use four of its twenty wells, reserving the 2-4 of the remaining wells for emergency use only. Ten wells with water quality concerns have been removed from service since 2016 (City of Davis, 2017).

The 2015 City of Davis Urban Water Management Plan (UWMP) assumes a 13.2 MGD well capacity (14,834 acre-feet) that can be used year-round in the event that demand exceeds supply from treated surface water.

Wholesale Surface Water

In June 2016, in order to replace the capacity lost with removal of wells that did not comply with current potable water quality regulations, the City began to add treated surface water from the Sacramento River to their water supply portfolio.

The Woodland Davis Drinking Water Supply Project (WDCWA) included the development of a new state-of-the-art water treatment facility (WTP), joint intake and surface water transmission system. The WTP can provide 30MG of high-quality drinking water per day

Photo Credit: Davis Enterprise, 2016

Woodland-Davis Surface Water Processing Station

under a variety of Sacramento River water conditions (e.g. varying water levels and turbidity spikes) (WDCWA, 2017).

The WDCWA has acquired two separate surface water rights:

- 45,000 acre-feet per year under State "Term 91" that include water restrictions during dry years, drought periods and summer months.
- 10,000 acre-feet per year in the April to October period available during dry years and drought conditions (A reduction of 25% can be imposed in the case that Lake Shasta levels become critically low).

The allocation provided to the City is 14,387 acre-feet in a normal year for projected 2030 surface water use. With a Term 91 curtailment from May 1 to November 15 and in a Lake Shasta Critical year, the water allocation is limited to 7.934 acre-feet. The City's portion of this during a normal year is 10.2 MGD (11,246 acre-feet) (WDCWA, 2017).

For calendar year 2017, 87% of the water consumed in the City was surface water from the new treatment plant. The

City's allotment is 10.2 MGD and they will continue to use surface water as the primary source unless demand exceeds this supply (WDCWA, 2017).

Groundwater

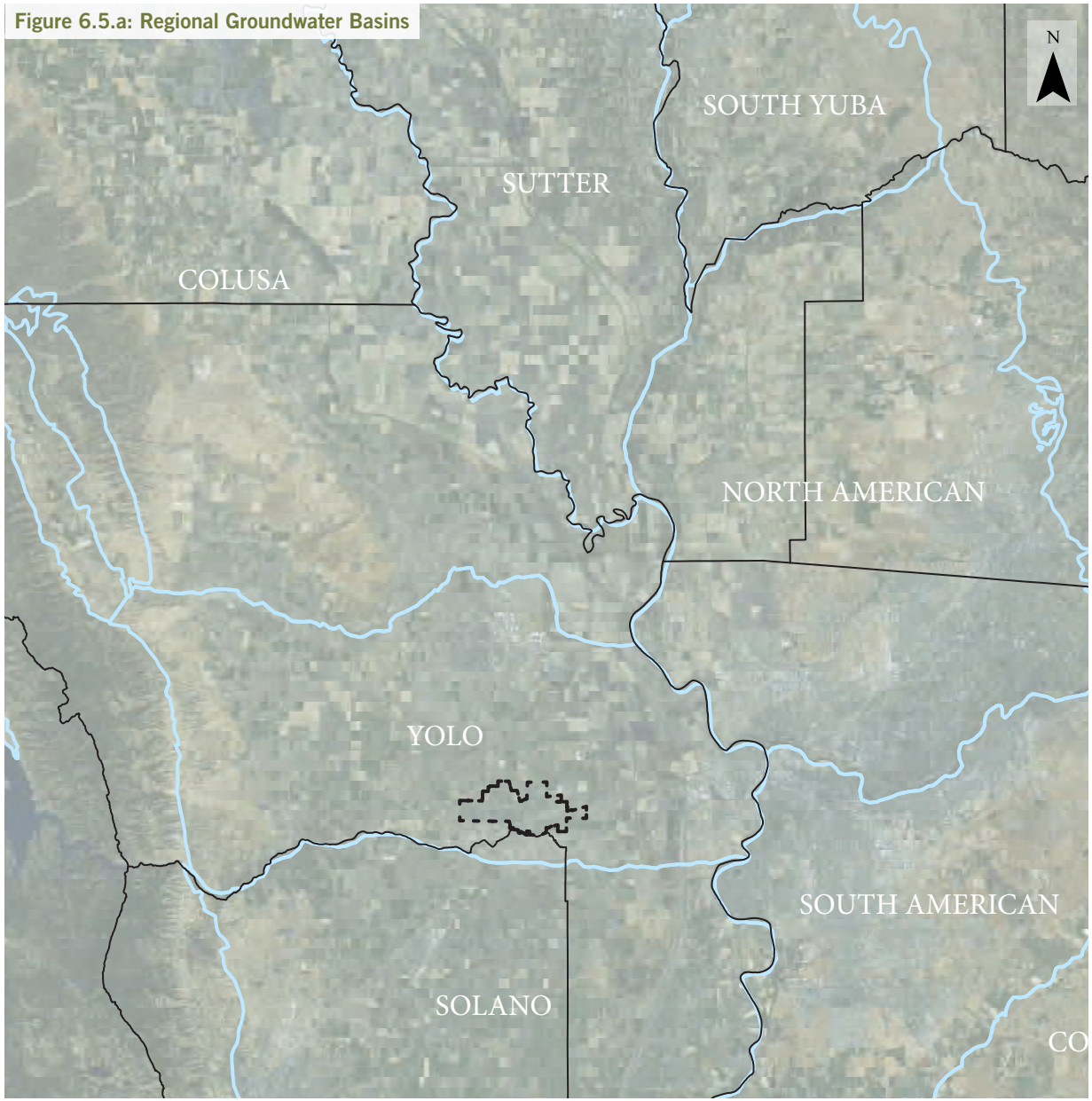
Yolo County is underlain by a substantial amount of groundwater, estimated to be roughly 14 million acre-feet (Ludhorff & Scalminini, 1975). Davis overlies the Yolo sub-basin (Basin), which is part of the larger Sacramento Valley groundwater basin (see Figure 6.5.a) (DWR, 2017).

Aquifers in the Davis area are recharged by the percolation of rainfall and to a lesser extent irrigation water. Other significant sources include infiltration in streambeds, channels and the Yolo Bypass. Relatively course grained deposits line both Putah and Cache Creeks, allowing for substantial infiltration. The intermediate and deep aquifers have recharge periods on the order of hundreds and thousands of years, respectively.

The Basin is not adjudicated and there are no legal restrictions for groundwater pumping. The 2015 Department of Water Resources update to Bulletin 118 does not consider the Basin to be in critical overdraft.

The City together with the University of California Davis prepared a Groundwater Management Plan (GMP) in April 2006. The GMP includes basin management objectives for monitoring and evaluating water levels,

Figure 6.5.a: Regional Groundwater Basins



water quality and inelastic ground subsidence. The Yolo County Subsidence Network continues to monitor and map subsidence, with continual monitoring and recent a recent survey completed in 2016.

More recently, in June 2017 the City entered into an agreement to form a Groundwater Sustainability Agency (GSA) with other users of the Basin, as required by the 2014 Sustainable Groundwater Management Act (SGMA).

Groundwater in the Basin is generally of high quality. However, high levels of naturally occurring chromium VI, manganese, iron, aluminum and boron, together with changing drinking water quality regulations, meant increased corrective actions were needed to stay in compliance with primary and secondary drinking water standards. This, in addition to other factors, led to the development of the WDCWA

Reuse Opportunities

The City is currently investigating potential applications for the Title 22 recycled water now available at the recently upgraded wastewater treatment plant (WWTP). Due to the distance of the WWTP from the City center, the City does not anticipate using this resource within the Downtown Plan Area. It is anticipated this water will be used to continue to support the wetlands to the east of the City as well as potentially for agricultural applications.

Additional opportunities for water reuse in the City include on-site reuse for non-potable demands to offset potable consumption. There are already a few small projects incorporating water reuse at the building scale. For example rainwater harvesting is being done at the new LEED Platinum Parkview Place apartment complex.

The Desert Sun, Jay Calderon, 2015

Recycled Water Opportunities

POTABLE WATER INFRASTRUCTURE

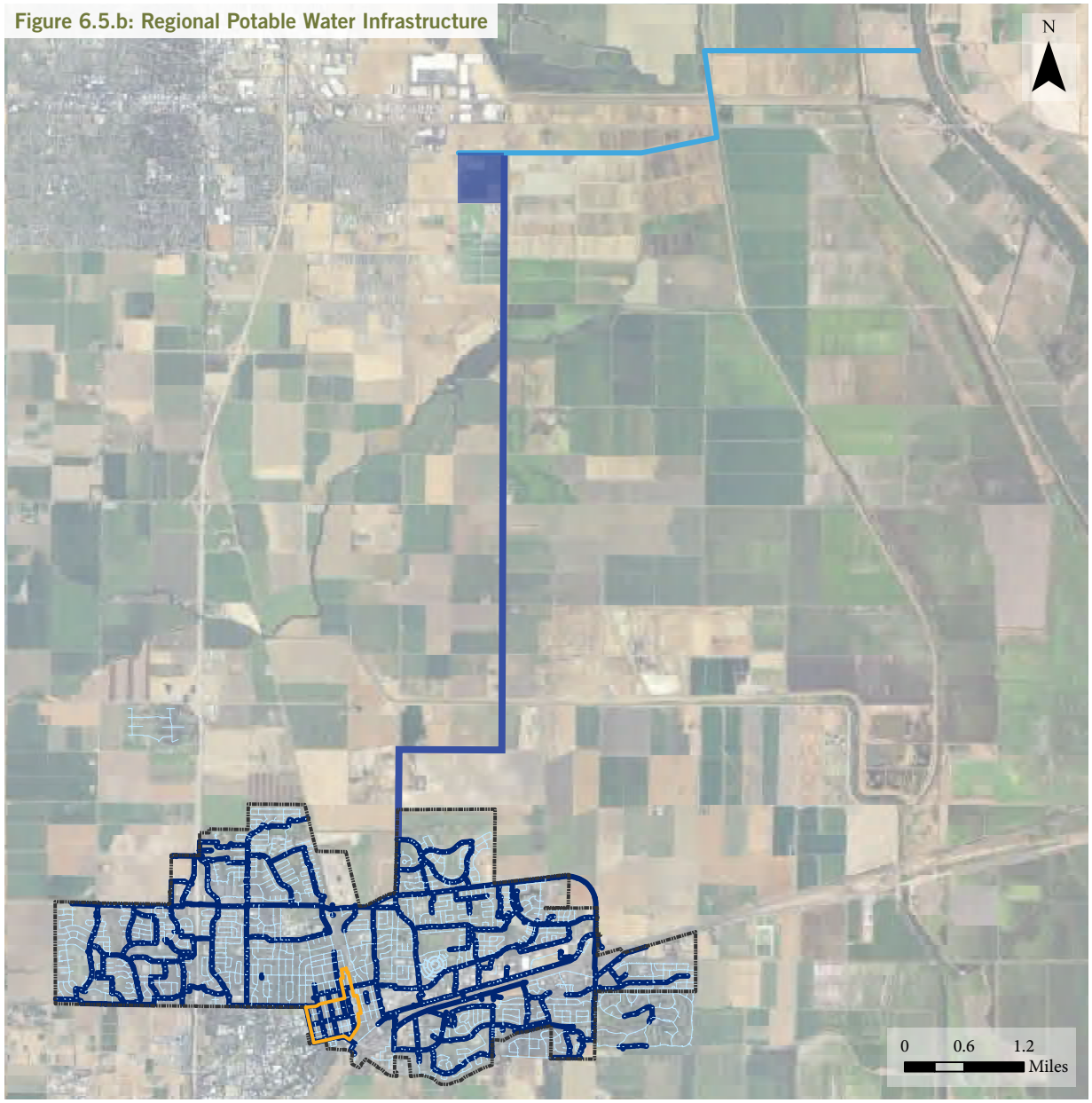
System Description

The Woodland Davis Water Treatment Plant (WTP) receives raw water from the Sacramento River via a 4.5 mile pipeline. From the WTP, treated water travels approximately 7.8 miles through a transmission line to arrive to the City (see Figure 6.5.b). Within the City, the water distribution system operates as one pressure zone with one elevated tank and two ground level storage tanks with booster pumping stations. The hydraulic grade in the system is based on the level of the elevated tank.

The potable water network within the Downtown Davis planning area, includes 6 miles of water distribution piping ranging in size from 1" through 14" and 42 fire hydrants The pipelines in Downtown Davis are the oldest in the city, on average 90+ year-old cast iron. There are no wells in Downtown Davis and those nearest are being decommissioned (see Figure 6.5.c).

The City had a 2015 water loss amount of 890 acre-feet, or about 9.7% of total water supplied. This includes real losses from pipe leaks and apparent losses such as unauthorized consumption, metering inaccuracies, and systematic data handling errors. These losses are within normal parameters for a typical water system.

Figure 6.5.b: Regional Potable Water Infrastructure



Recent and Planned Upgrades

In 2011 the City developed a Water Distribution System Optimization Plan. Many of the capital projects identified in the plan have not yet been initiated as to coordinate the improvements with other planning efforts, including the Downtown Davis Plan. The City is currently looking at a 5-year plan to deal with water pipe repair and replacement such that it can be paired with necessary street repavement, but currently do not have any commitments scheduled.

Demand

The City's water service area includes the City boundaries, CSAs within Yolo County and the Royal Oak Mobile Home Park. There are no un-metered connections and no raw water uses.

As part of coordinating future supply with new wholesale supplier, the WDCWA, the City projected water demand through 2035 for a normal water year type.

At build-out of the service area in 2023, the overall demand is estimated to be 161 gallons per capita per day (gpcd). With increased water conservation, this volume is expected to fall to 150 gpcd (Urban Water Management Plan, 2015, 2016 errata). At the adoption of the Integrated Water Resources Study (2013), the City's Natural Resources Commission (NRC) recommended that the City reduce demand to 134 gpcd by 2020 (an additional 20% decrease in use from the SB x7-7 goal of 172 gpcd). Note that in 2015 with multi-year drought and Governor's Drought Restrictions, average per capita use was 119 gpcd. Expected demand for new development is estimated to be 10% lower than existing development due to applicable state codes and ordinances such as the CALGreen Building Code.

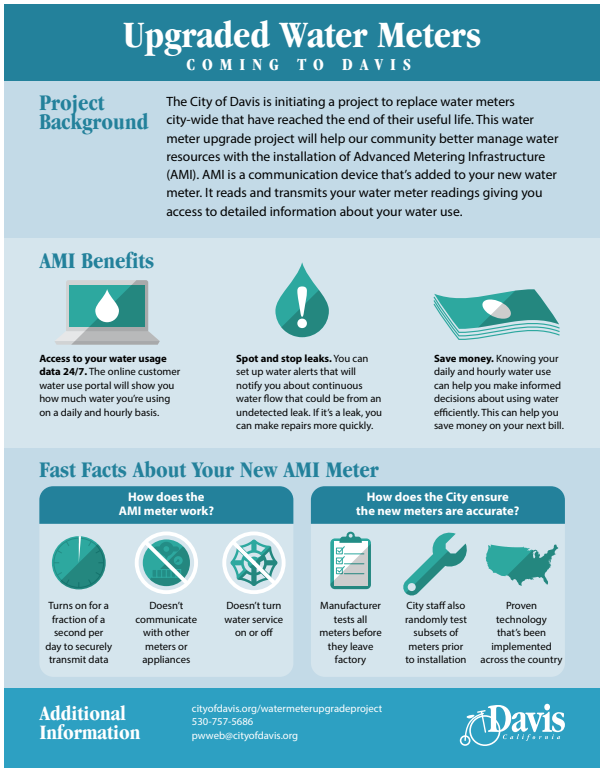
The combination of hot and dry weather in summer leads to higher demands, both in and around the City.

Demand Management

In January 2016 the City approved Standard Operating Procedures for Water Waste Complaints in January 2016 and include penalties and fines for wasting water, even during a normal year. The City intends to update our local water waste ordinance in accordance with state-wide permanent water waste prohibitions after they are finalized by the State Water Resources Control Board.

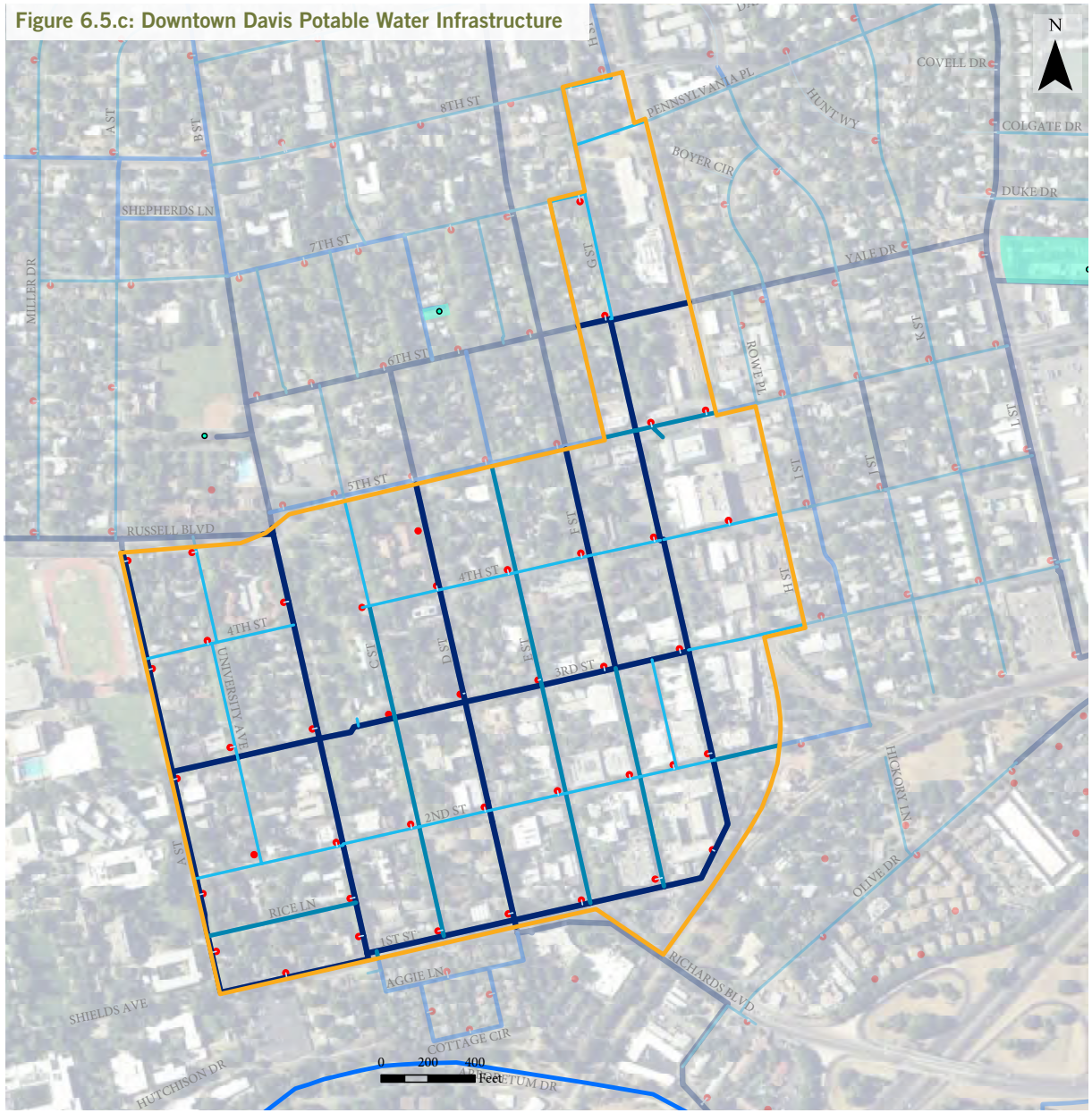
During the recent multi-year drought the City also expanded its public information and awareness by implementing workshops, distributing park signs, adding bill inserts, and increasing the number of educational programs at schools. The City expanded the SaveDavisWater.org webpages to include videos and presentations from past workshops, information on water-wise landscaping and a list of helpful resource links.

In June 2015 the City replaced all meters on City facilities and parks with advanced metering infrastructure (AMI) and included City facilities that were previously not billed for their water use. The City will be replacing all customer meters and adding AMI beginning this spring with an anticipated completion date of September 2018 This will mean all users will have access to hourly usage data (cubic feet) through a customer water use portal.



City of Davis Advanced Water Meter Infographic

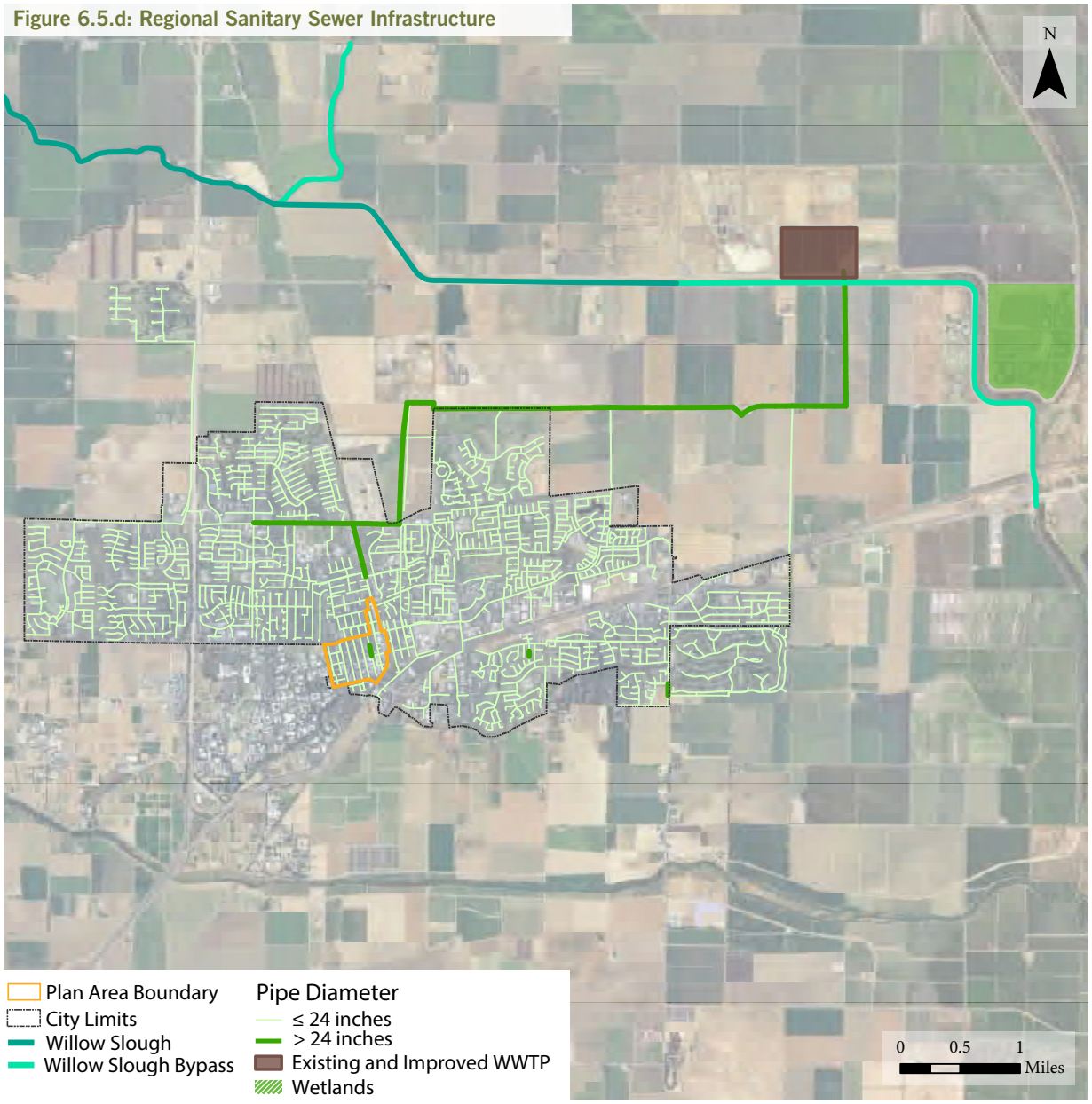
Figure 6.5.c: Downtown Davis Potable Water Infrastructure



Plan Area Boundary
Stream
Pond
Well Site
Hydrants

Pipe Diameter
0 - 4 inches
5 - 6 inches
7 - 8 inches
9 - 20 inches

Figure 6.5.d: Regional Sanitary Sewer Infrastructure



SANITARY SEWER INFRASTRUCTURE

System Description

The City's Wastewater Treatment Plant (WWTP) is located roughly 5 miles northeast of the City and has a permitted dry weather flow design capacity of 7.5 MGD and a peak wet weather flow of 12.6 MGD and is currently operating around 4.5 MGD (see Figure 6.5.d).

The sewer network within Downtown Davis includes 6 miles of pipe (of 156 miles citywide) ranging in size from 6" to 66" with 76 sewer maintenance holes. A pump station (2 pumps, 200 gpm) just south of Downtown Davis discharges wastewater to a force main that facilitates flow to a recently upgraded treatment plant northeast of the City limits (see Figure 6.5.e).

Recent and Planned Upgrades

Major upgrade to the WWTP began in 2015 in order to meet Title 22 discharge standards by October 2017 (as opposed to previous disinfected secondary-23 effluent). This required the removal of the facultative pond/ overland flow treatment facility and installation of a conventional biological treatment plant and tertiary filtration.

All effluent is either discharged to the Willow Slough Bypass or sent to 400-acre constructed wetlands, which previously served as an additional treatment point. However, given the recent increased quality of discharge water the City is considering how it can be reused to irrigated crops and/or other uses in the surrounding area.

An April 2009 Sewer Capacity Evaluation and Assurance Plan (SECAP) determined that the capacity in the City collection system was generally adequate, although the City's main trunk sewers only had capacity to pass peak wet weather flows (based on the 2010 General Plan). The SECAP was considered a phase I SECAP and the City is currently in the process of developing a field-verified dynamic hydraulic model that will be able to run various capacity alternatives and better assess and identify deficiencies. For example, the developing model includes the pending Downtown Davis Nishi Development project (along the Olive Drive Corridor), that may potentially drive the need to upgrade the downstream system.

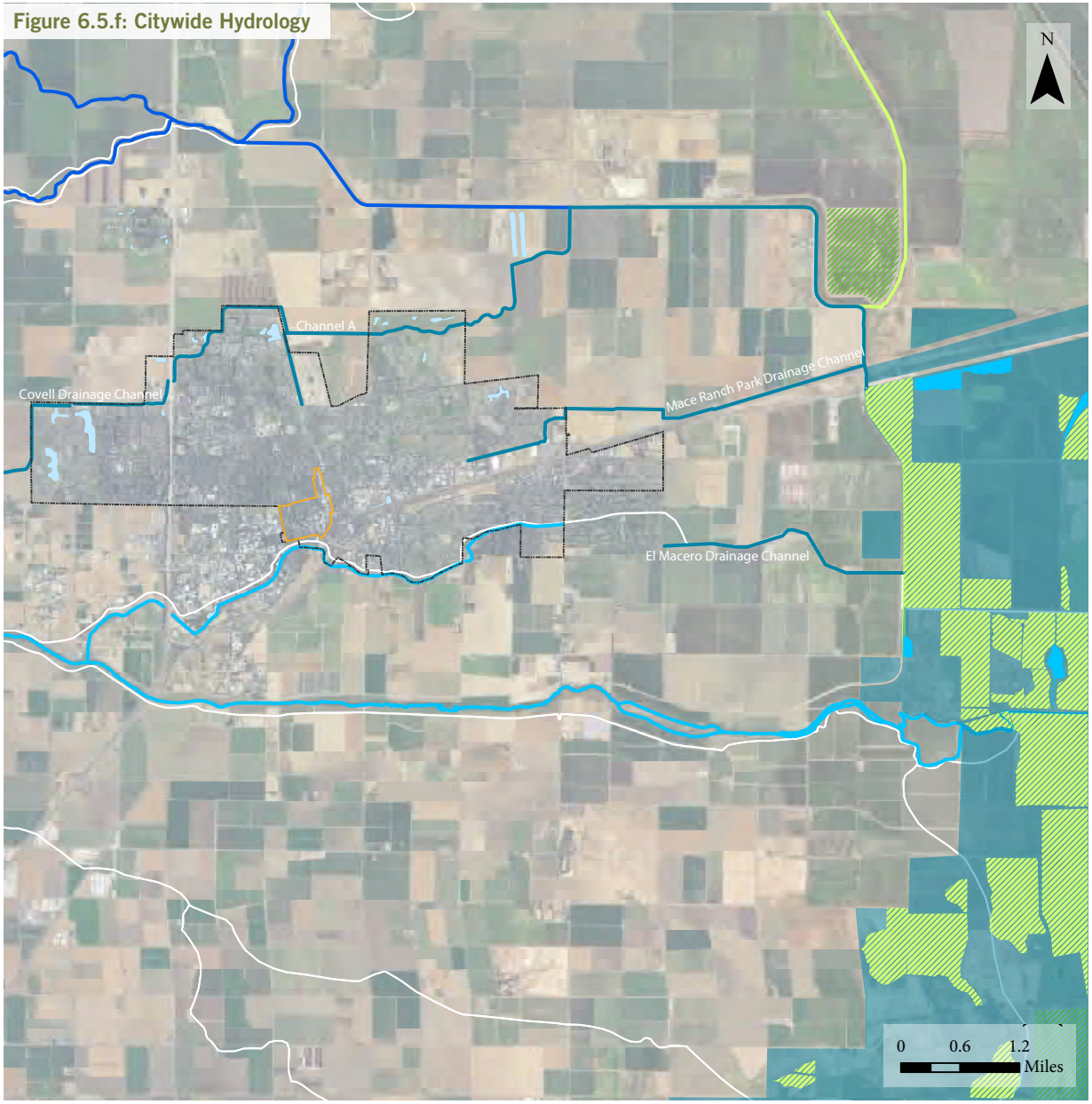
The City has a CMMS system but has not fully taken advantage of its capabilities to track and prioritize necessary repairs and replacements.

Figure 6.5.e: Downtown Davis Sanitary Sewer Infrastructure

Plan Area Boundary
Stream
Pond
Manholes

Pipe Diameter
0 - 4 inches
5 - 12 inches
13 - 24 inches

Figure 6.5.f: Citywide Hydrology



STORMWATER INFRASTRUCTURE

Regulatory Context

The City is required by the California State Water Resource Control Board (SWRCB) to comply with requirements of the Phase II Small MS4 General Permit (Order 2013-0001-DWQ) (Permit), effective as of July 2013.

Total Maximum Daily Loads (TMDLs)

The City has its own MS4 delineation and does not have any methylmercury allocations unlike the rest of Yolo County for MS4/Urban Runoff Sources, as it is outside the scope of the Delta Methylmercury TMDL project boundaries (the Legal Delta boundary and Yolo Bypass delineation).

There may be other TMDL programs that the City may be subject to in the future, including a recently adopted Pesticide Control Program for pyrethriods that is in the process of possibly being adopted soon.

The Trash Amendments

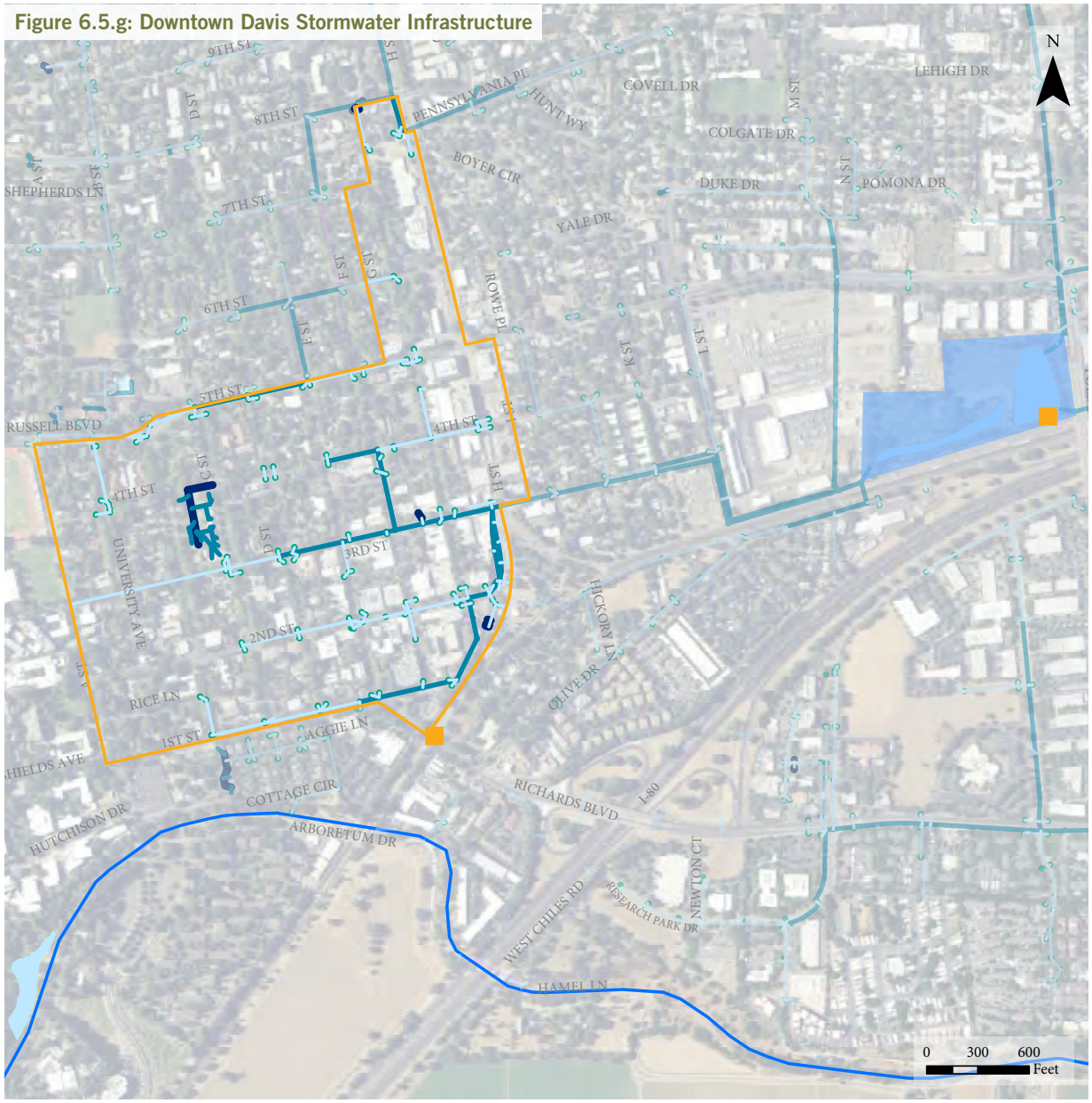
On April 7, 2015, the State Water Resources Control Board (SWRCB) adopted an Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (collectively referred to as "the Trash Amendments"). The Trash Amendments were approved by the California Office of Administrative Law (OAL) and the U.S. Environmental Protection Agency (U.S. EPA) on December 2, 2015 and January 12, 2016, respectively.

By December 2018, the City needs to prepare Preliminary Jurisdictional Maps that show priority land uses, their corresponding drainage networks, and proposed full capture systems (Track 1), or equivalent (Track 2). Priority land uses are generally defined as high density residential, industrial, commercial, mixed urban and public transportation systems. As such, Downtown Davis will need to be included. Compliance will be tracked via monitoring of capture devices and reporting will occur online via the SWRCB's Stormwater Multiple Application and Report Tracking System (SMARTS).

System Description

The City's storm drain network is divided into 11 basins. Rainfall runoff flows by gravity into the city's four detention ponds, one detention basin, and one drainage

Figure 6.5.g: Downtown Davis Stormwater Infrastructure



pond. Pump stations lift water from these facilities into main drainage channels: the Covell Drainage Channel, Channel A, Mace Ranch Park Drainage Channel and the El Macero Drainage Channel. These channels ultimately drain to the City's Wetlands or the Yolo Basin Wetlands (see Figure 6.5.f).

In Downtown Davis, there are 155 catch basins and 3.5 miles of pipe. Stormwater from Downtown Davis and portions of East Davis drain to the Core Area detention pond (Toad Hollow Dog Park) (see Figure 6.5.g). A pump station located within the park discharges stormwater to the south side of the Union Pacific Railroad tracks and runs in the Second Street Drainage Channel running south of the tracks east to the Yolo Bypass. In 2016 the pumps ran for 190 hours at 4,900 gallons per minute (gpm) to address a seasonal rainfall total of between 10-15 inches (City of Davis, 2018). In 2017 the pumps ran for 340 hours at 4900 gpm to address a seasonal rainfall total of between 25-30 inches. The pumps are inspected weekly and Downtown Davis streets are swept twice per week to minimize stormwater pollutants

The northwest quadrant of Downtown Davis, between 3rd to 5th streets and E to B Streets has little to no underground storm drain system. All stormwater travels a significant distance on the surface before reaching a storm drain. Many of the storm drain inlets are eighty to ninety year-old, small, grate inlets that easily clog. As such, this area can experience temporary localized flooding during major storms.

Runoff from commercial and industrial areas of the City may contain silt, organic materials, heavy metals, petroleum, hydrocarbons, fats, oils and grease, surfactants, trash and pesticides associated with vehicular and business activities. Yard waste can contribute to excess nutrients in receiving water bodies (e.g. phosphorus and nitrogen). The City recently transitioned to limiting the collection of on-street green waste piles to once a month in residential neighborhoods, and on-street piles will no longer be permitted in Downtown Davis (area bounded by 1st, 5th, B and F Streets). All compost and other green waste will have to be put into standing containers.

Recent and Planned Upgrades

The City recently extended the storm drain system down Third Street, between A and D Streets, as a continuation of good standard drainage facilities for the existing built environment and to address minor surface drainage inconveniences. When finished the project will include permeable pavement along the street and sidewalk to further improve drainage, as well as beautify the existing streetscape. There is a vision to extend the storm drain system up 4th Street as well, replacing the existing siphons. The City also has plans to replace 20-40 of the old inlets with modern curb openings. In addition, the City is currently investigating the relocation of the Richard Boulevard pump station to a more accessible location. The station currently has occasional failures due to power outages and clogged intakes, which can cause localized flooding in the Richards Boulevard underpass. Flooding is generally resolved in a matter of hours. Depending on available funds, the relocation of the pump station may kick off in the next couple of years.

Beyond the upgrade of the Richards pump station, the last stormwater Capital Improvement Plan (CIP) is decades old and the City no immediate plans to update it. As the majority of the downtown area is largely impervious surface already, the City does not anticipate redevelopment to have any significant impact on drainage.

The City has grant funding to construct a demonstration project at the historic City Hall site located on the northwest side of the intersection of Russell Boulevard and B Street. The demonstration project involves taking drainage from the structures on site, some of the parking areas and the street frontage along Russell into low impact development treatment control measures. These features will treat Stormwater runoff to remove pollutants from their respective drainage sheds prior to releasing to the City's storm drain system. The project is scheduled to begin construction in late 2018

City Programs and Policies

- 2017 Public Works Design Standards
- November 2015 City of Davis Draft Stormwater Phase II General Permit Development Standards Guidance Document
- July 2015 Model Water Efficient Landscape Ordinance (MWELO) promotes conservation and efficient use of water
- June 2012 Construction General Permit requires SWPPPs for all projects that disturb 1 acre or more of soil
- Jan 2011 CALGreen Code that requires non-residential projects of less than an acre to provide erosion and sediment control plans

Existing Drainage Condition (Second Street)

Toad Hollow Dog Park (Detention Basin)

Low Impact Development Strategy - Downspout Disconnect at Sherman Townhomes to allow rainwater percolation

Ongoing Stormwater & Sewer Upgrade (Third Street)

Illicit Discharge (Fats, Oil & Grease)

Characteristic Existing Stormwater Inlet

BROADBAND

Existing Conditions

Most broadband services within the City are currently provided by DSL, cable or wireless, through copper cables. AT&T, Comcast, Omsoft, and Davis Community Network are the city's main internet providers, offering speeds anywhere from 50 to 300 Megabits per second (Mbps).

Per a 2015 survey, 30% of residents and 39% of businesses said they had unreliable service and 60% said it was not fast enough. Without a next generation fiber broadband network, residents and businesses do not have the opportunity to take advantage of many online applications; making local businesses less efficient in their operations, schools less equipped to bring online resources to students, hospitals less able to provide remote care to patients and citizens less equipped to use online applications to manage their daily lives. Comcast says they will be increasing download speeds and that customers will have speeds up to 1 Gigabits per second (Gbps) by the end of 2018. Alternatively AT&T has slowed promotions for DSL and may be putting effort entirely into selectively building fiber.

In 2005, the City renewed a franchise agreement with Comcast to provide the services, facilities and equipment to meet the cable related needs of the community. This agreement is effective until October 1, 2018. The provisions of this agreement created the Institutional Network (I-Net), a private communication network that currently provides free fiber and internet access to the city, public schools and county buildings, and cannot be used for any commercial purposes. The costs of a new agreement are not yet known. Changes in State law in 2006 (Assembly Bill 2987) now require the California Public Utilities Commission to approve these types of franchise agreements.

Copper Wire (PGE)

Fixed Wireless (PGE)

DSL (PGE)

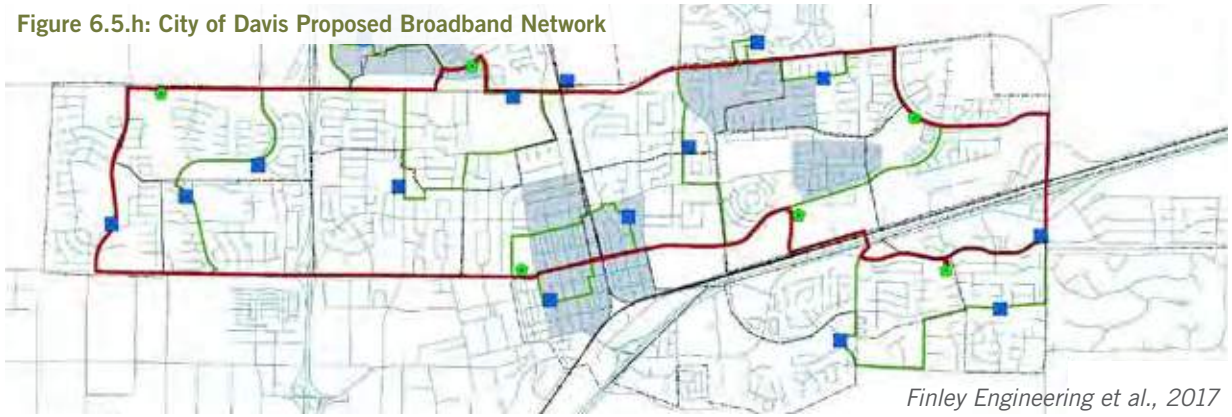
Fiber Coverage (PGE)

Recent and Planned Initiatives

Together with the cities of West Sacramento, Winters and Woodland, the City of Davis completed a collaborative broadband study to determine how Yolo public organizations could participate in the development of broadband fiber infrastructure through the utilization of public policy tools, grant opportunities and public-private partnerships.

As a result of this study the City established a Broadband Advisory Task Force and in August 2016 the City issued a Request for Proposals (RFP) to prepare Citywide Fiber Optic Network Feasibility Study (Study), the preliminary DRAFT of which recently became available in December 2017.

Figure 6.5.h: City of Davis Proposed Broadband Network



Finley Engineering et al., 2017

The study estimated the cost of a citywide fiber network at $72 million. The key finding from the analysis is that it is not feasible to build and operate such a network from a single bond issue; some portion of funding would need to come from tax revenues derived from sale taxes, property taxes, or some other source of municipal revenue.

Nonetheless, there is national evidence that having a second fiber network provides customers with choice and holds down prices. It is therefore recommended that the City find ways to partner with a single operating internet service provider (ISP) such that Comcast does not form a monopoly.

STUDY RECOMMENDATIONS

- **Undertake a residential survey** to gauge residential buy-in, which is the most important variable affecting the financial feasibility of building a city fiber network. A business survey is NOT recommended as they have not been shown to be accurate predictor of behaviors.
- **Undertake a deeper analysis of the MDU market.** For example, identify owners, local managers and decision makers at each MDU; make on-site estimates of the cost to upgrade a MDU to fiber; etc.
- **Investigate the Possibility of Using Tax Revenues** (e.g. sales taxes, property taxes or some sort of utility fee)
- **Pick a business model.** It looks most promising that the City build the network and then partner with a nonprofit or single ISP to operate the triple-play business.
- **Identify potential partners,** by issuing an RFI or, preferably, initiate direct discussions with known potential partners, or a mix of both.
- **Community education/buy-in** in order to get feedback and gain buy-in of the concept.. Make the Study public, hold workshops, etc.
- **Consider tackling a fiber network in phase.** For example, start with connecting city facilities and the University.
- **In-depth review of city practices.** E.g. permitting, franchise requirements, traffic control, etc. to see if anything can be streamlined.
- **Keep an eye on broadband prices.** If prices rise, as expected, this may affect the City's financial expectations in a positive way.

6.6 Chapter Summary of Findings

OVERVIEW

This chapter covered regional hydrology and existing conditions and planned upgrades of potable water, sewer, stormwater and broadband infrastructure in the Downtown Davis area.

OPPORTUNITIES

- New Water Treatment Plant provides high quality water
- Well developed water resources portfolio with built in redundancies
- Engaged in regional management agreements
- Existing on-site non-potable capture and reuse projects to draw and build from
- Recently upgraded WWTP has excess capacity and treats to tertiary standards
- Potential to sell recycled water and/or use to offset the City's potable demand (irrigation and street cleaning)
- Minimal flood hazard
- Built in water quality protection (detention basins)
- Suitable soils for infiltration
- Redevelopment not likely to impact capacity of drainage network
- Comcast upgrades to 1 Gbps by end of 2018
- Broadband Advisory Task Force and Citywide Fiber Optic Network Feasibility Study (Study, DRAFT December 2017)
- Progressive City programs/policies

CONSTRAINTS

- Dry years or significant drought will affect allocation of surface water
- Future use of groundwater for potable purposes requires treatment
- Gaps in stormwater drainage system
- General age of infrastructure, particularly in Downtown Davis
- Underutilized Computerized Maintenance Management System (CMMS)
- Poor internet reliability and speed
- One broadband provider (Comcast)
- Draft Broadband Feasibility Study determine citywide network prohibitively expensive
- Climate change (higher temperatures)
- Evolving water quality and environmental regulations
- General lack of funding for new and/or upgraded infrastructure

AREAS FOR FURTHER STUDY

- Coordination with PG&E and other dry utility providers for mapping of underground utilities and future projects and/or programs.
- Water and sewer unit demand review and analysis.
- Stormwater management and long-term compliance opportunity analysis.

This page intentionally left blank.

Historical Resources

chapter 7

Author: Preservation Architecture

7.1 Introduction

This existing conditions documentation addresses the subject of historical resources in the area of Davis' downtown/commercial core and its surrounding neighborhoods (University/Rice, Old North and Old East), identified in the Zoning Ordinance as the downtown and traditional residential neighborhood overlay district. The intent of this report is to summarize the range of existing historical resources along with related regulatory processes and information access.

As historical contexts and resources in the downtown core and surrounding neighborhoods have been relatively well documented, beyond summarization, this existing conditions effort additionally addresses properties and buildings of the mid-20th century period (c1953-c1973) that have not yet been specifically addressed. The basis for this direction is that the City has largely inventoried resources up to the early 1950s, and logically so, since historical resource criteria is generally based on a minimum 50 year age threshold – i.e., resources less than 50 years of age are not generally eligible for historical resource determination.

Nonetheless, in addition to identifying and surveying downtown related mid-century resources, and despite the extent of previous identification and evaluation, a range of earlier properties/buildings have not been inventoried and will be included in this overall plan effort.

In sum, at present, there are 31 designated historical resources in the downtown core and surrounding neighborhoods, 10 of which are designated "landmarks" – including 2 listed on the National Register of Historic Places – and 21 "merit resources." Additionally, there are some 170 properties presently identified as contributors to identified conservation overlay districts

The focus of these existing conditions efforts are to:

- Review, analyze and summarize all of the previously completed City of Davis historical resource ordinances, records, inventories, etc.;
- Research unsurveyed properties to identify, research and initially record the extant resources from the 1950s into the early 1970s.

This existing historical resources effort has included the following tasks:

- Team-wide, day-long kick-off meeting, including Core Area site visit
- Collection of base documentation and overall site evaluation
- Permit research at City (1.5 days)
- Field surveys (4 days)
- Review of base documentation
- Outreach and discussion with City-recommended individuals (Mr. Rand Herbert and Mr. John Lofland)
- Review of historical resource portals at related jurisdictions
- Analysis and development of existing conditions documentation
- Participation in and feedback from several focus group meetings and a public presentation and workshop
- Additional changes and revisions based on staff review and comment

7.2 Existing Historical Resource Policies and Documents

The City of Davis is a Certified Local Government. "*Amendments in 1980 to the National Historic Preservation Act of 1966 provided for the establishment of a Certified Local Government Program (CLG) to encourage the direct participation of local governments in the identification, evaluation, registration, and preservation of historic properties within their jurisdictions, and the promotion of integration of local preservation interests and concerns into local planning and decision-making processes.*" The City's CLG status "*elevates the importance of historic preservation and creates a formal partnership with the State for mutual support of preservation efforts.*" Consequent to Davis' CLG status, the City established an Historic Resource Management Commission (HRMC) to consult on decisions that affect historical resources, and adopted an Historical Resource Management (HRM) ordinance to guide historical resource decisions. (quotes from Recurring Challenges with Implementation of the Core Area Plan, p13).

Existing regulations concerning and addressing historic resources include layers of policies and plans that are implemented via a range of zoning and building ordinances, including:

- Article 40.23 Historic Resources Management (HRM)
- Article 40.13 Core Area Design (C-D) Combining District
- Article 40.13A Downtown and Traditional Neighborhood Overlay District
- Article 40.04A Residential One- and Two- Family Conservation (R2-CD) District
- Article 8.19.030 Demolitions within the adopted conservation overlay district or historic district
- Article 8.19.040 Demolition of structures that are fifty or more years old
- The Davis Downtown and Traditional Residential Neighborhood (DDTRN) Design Guidelines

Additional previous documentation reviewed:

- City of Davis paper entitled "Recurring Challenges with Implementation of the Core Area Specific Plan"
- Map and list of Davis' "Designated Historic Resources"
- Map and lists of surveyed and unsurveyed properties in the overlay district
- Previous historic context statements, evaluations and inventories (1996, 2003, 2015)

With respect to the latter, previous historical surveys were undertaken and completed in 1980 (*Cultural Resources Inventory, Davis, California*), 1996 (*City Of Davis Cultural Resource Inventory And Context Statement*), 2003 (*Central Davis Historic Conservation District Historical Resources Survey)* and 2015 (*Davis, California: Citywide Survey and Historic Context Update*). The 1996 effort surveyed and established the boundaries and labels for the downtown core area and surrounding neighborhoods. The 2003 effort prepared the basis for the definition of conservation districts. And the 2015 citywide survey extended historic resource considerations citywide. Those surveys have compiled a comprehensive, up-to-date and highly useful set of historic context statements for the City of Davis. This overall documentation has been compiled under the historic preservation tab of the Planning & Zoning website (@http://cityofdavis.org/city-hall/community-development-and-sustainability/historic-preservation).

In addition to the narrative-form context statements, those previous evaluations have compiled historical resource inventory forms for numerous individual properties. That aggregated information is less accessible than the context narratives, as the inventories are formatted into discrete documents that have no utilitarian index and are not summarized in any directly accessible way. In fact, based on this author's experience, there is no way to identify if a given property has been inventoried, no less to directly access and refer to an individual inventory form. The current effort therefore attempts to consolidate information about the extent of previous evaluations.

7.3 Historical Resource Management (HRM)

HRM TERMS

The most essential and basic of Davis' existing historical resource plans and policies is the HRM. Therein, the basic historical resource terms are defined (from 40.23.030 Definitions, with highlighted text to emphasize explicit definitional differences):

"Historic Resource"

This term refers to improvements, buildings, structures, objects, signs, features, sites, cultural landscapes, places, areas, or other improvements of scientific, aesthetic, educational, cultural, archaeological, architectural, or historical value to citizens of the City of Davis and designated as landmarks, merit resources, or historic districts by the city council pursuant to the provisions of this article. These designated resources comprise the Davis Register of Historical Resources.

"Landmark"

This term refers to buildings, structures, objects, signs, features, sites, places, areas, cultural landscapes or other improvements of the highest scientific, aesthetic, educational, cultural, archaeological, architectural, or historical value to the citizens of the City of Davis and designated as such by the City Council pursuant to the provisions of this article. A landmark is deemed to be so important to the historical and architectural fabric of the community that its loss would be deemed a major loss to the community. Once designated, Landmarks are included in the Davis Register of Historical Resources. Landmarks were formerly designated as "Outstanding Historical Resources."

- **"Outstanding historical resource"** shall mean buildings, structures, signs, features, sites, places, areas, or other improvements of the highest scientific, aesthetic, educational, cultural, archaeological, architectural, or historical value to citizens of the city of Davis and designated as such by the City Council pursuant to the provisions of this article. An outstanding historic resource is deemed to be so important to the historical and architectural fabric of the city that its loss would be a major loss to the city. When application is made for an alteration permit to demolish an outstanding historical resource, the commission's disapproval of the application means that no alteration permit shall be issued (from 2013 Core Area Specific Plan, p118).

"Merit Resource"

This term refers to buildings, structures, objects, signs, features, sites, places, areas, cultural landscapes or other improvements with scientific, aesthetic, educational, cultural, archaeological, architectural, or historical value to the citizens of the City of Davis and designated as such by the City Council pursuant to the provisions of this article. Once designated, Merit Resources are included in the Davis Register. Merit Resources were formerly designated as "Historical Resources."

- **"Historical resource"** shall mean buildings, structures, signs, features, sites, places, areas, or other improvements of scientific, aesthetic, educational, cultural, archaeological, architectural, or historical value to citizens of the city of Davis and designated as such by the City Council pursuant to the provisions of this chapter. When application is made for an alteration permit to demolish a historical resource, the commission's disapproval of the permit means demolition can be suspended for up to 360 days (from 2013 Core Area Specific Plan, p118, highlights added to identify differences).

"Historic District"

This term refers to a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. A district derives its importance from being a unified entity, even though it is often composed of a wide variety of resources. The identity of a Historic District results from the interrelationship of its resources, which can convey a visual sense of the overall historic environment or be an arrangement of historically or functionally related properties. Designated Historic Districts are included in the Davis Register of Historic Resources. Historic Districts can include Historical Resources that may be individually designated as Landmarks or Merit Resources. It further defines the components of a district as follows:

- **"Historic District Contributor"** means a building, site, structure, object, or cultural landscape identified in the Historic District Plan that possesses sufficient integrity to add to the historic architectural qualities, historic associations or patterns for which an Historic District is significant.
- **"Historic District Non-Contributor"** means a building, site, structure, object, or cultural landscape identified in the Historic District Plan that does not add to the historic architectural qualities, historic association or patterns for which a Historic District is significant.

HRM PROCESSES

Under the HRM and relative to historic landmarks, merit resources and historic districts, discretionary treatment processes specifically include:

- **"Certificates of appropriateness,"** which means a certificate whose issuance is approved by the Historical Resources Management Commission (HRMC) or upon appeal by the City Council and which authorizes its recipient to make specified and approved exterior alterations to a Davis Register designated historical resource.
- **"Demolition/relocation certificate,"** which means a certificate whose issuance is approved by the historical resources management commission or upon appeal by the City Council and which authorizes its recipient to demolish, remove, or relocate a designated historical resource.

Generally, the succinct zoning provisions and associated procedures under the HRM are basic and clear – i.e., they clearly define the designation categories, criteria and procedures as well as the certificate of appropriateness requirements applicable to such designated properties.

Conversely, under the provisions for demolition certificates (40.23.030 & 040), which in turn reference building standards (under Chapter 8 of the Davis Municipal Code), requisite processes are potentially discretionary as well as open-ended. Demolition certificates apply not only to designated resources (City of Davis landmarks, merit resources and historic districts), they apply to all buildings that the HRMC has determined a resource relative to the California Environmental Quality Act (CEQA).

Under CEQA (CA title 14, chapter 3, sec.15064.5), the term "historical resources" includes resources designated in a local register ("landmarks" and "merit resources included in the Davis Register of Historical Resources); and resources *"identified as significant in a [qualified] historic resources survey.*"

The fact is that there have been several substantive historical resource surveys completed for properties and buildings in the downtown core and surrounding neighborhoods (see discussion below), with such inventories having identified some 180 properties/ buildings as potential/eligible historical resources under CEQA, each and every one of which therefore lands within this discretionary category. The demolition certificate additionally and, again, discretionarily applies to "non-designated resources," a broad and moving category.

Whereas the primary provisions of the HRM zoning article are clear and basic, the provisions related to demolition are broad, largely discretionary and potentially open-ended.

In sum and relative to Davis' existing historical resource categories, the status quo re: regulatory, historic resource actions/treatments includes:

- For designated (Davis Register) resources: certificates of appropriateness and demolition certificate protocols.
- For non-designated, CEQA resources (conservation district contributors): demolition certificate protocols and potential environmental analysis.
- Core Area Design (C-D) Combining District: DTRN Guidelines (for additions and new construction).
- Downtown and Traditional Neighborhood (DTRN) Overlay District: DTRN Guidelines (for additions and new construction).
- Residential One- and Two- Family Conservation (R2-CD) District: DTRN Guidelines (for additions and new construction).

7.4 Existing Historical Resource Inventories

In the City of Davis, despite the extent of prior efforts focused on historical resources (individually as well as collectively) since 1980, very few properties have actually been designated – just 31 in the downtown and its neighborhoods (and a total of 40 citywide). Further, there have been just two historical resource designations since 1998 (one each in 1999 and 2008) and there are no designated historic districts. These plain facts either provide evidence of hesitance or even perhaps reticence over the direct recognition of historical resources; and/or evidence of the lack of historical resource potential.

Designated resources in Downtown and the surrounding neighborhoods date from 1870-1950, with 6 from the 1870-1890 period, 23 from the 1910-1930 period, 1 from 1938 and 1 from 1950. So all but 2 date from the late-1800s to 1930 while some 70% date from the 1910-1930 period.

Beyond Davis' designated historical resources, there is another category of potential historic resources – the Conservation Overlay District (see Figure 7.4.a). As defined in Davis Municipal Code chapter 40.23.030, "*Conservation Overlay Districts support planning policy stipulating that new development and renovation of existing buildings should respect the traditional scale and character found within a defined area. Conservation overlay zoning districts are not included in the Davis Register of Historical Resources. However, individual buildings within a conservation overlay district may be designated landmarks or merit resources.*"

Figure 7.4.a: Conservation Overlay District Boundary

The existing conservation overlay district overs the Old North, Old East, and University/Rice Lane neighborhoods as well as the Downtown Core.

Source: Davis Downtown and Traditional Neighborhood Design Guidelines, 2007

Conservation districts are broadly defined overlay zones, the evident intention of which is to recognize and provide some measurable stabilization and protection to existing neighborhood character. Such protections are codified in the form of design guidelines (the 2000 DDTRN Design Guidelines).

The basis for the conservation overlay district was the 2003 evaluation and inventories. That conservation district concept and initiative was presumably based the CA State Office of Historic Preservation's Technical Assistance Bulletin 14, entitled Drafting Effective Historic Preservation Ordinances. Therein, the conservation district is identified as an alternative type of resource district, the resources of which may individually or collectively fall short of meeting historic resource designation criteria yet may be collectively recognized as having cultural importance.

In Davis, the conservation overlay district is, in practice, the most broadly applied historical resource category, as the Downtown and Traditional Neighborhood Overlay District encompasses the entire downtown core and surrounding neighborhoods. Although only 5% of the existing resources within the boundaries of this overlay district have been designated historical resources, in addition to the identified lack of historic districts, some 30% of the existing undesignated resources have been identified as contributors to Davis' conservation overlay district.

Whereas the conservation overlay district is intended to address neighborhood character, and in Davis does so by codifying and deploying guidelines and which do not stipulate historic preservation actions, standards or treatments but address alterations and related new construction, Davis' conservation overlay district extends itself beyond the reach and use of a traditional overlay zone by having surveyed hundreds of individual properties and, in the course thereof, having identified most of those individual properties to be contributors or potential contributors to the conservation district. Overall, based on current summaries and calculations, approximately 70% of the surveyed properties have been identified as contributors whereas some 18% have been identified as non-contributors. Within the commercial core, the proportions are 53% contributing and 19% non-contributing.

Again, while there are no specific historic preservation actions or treatments applied to non-designated properties associated with the conservation overlay district, applicable protection or preservation actions or treatments relative to these non-designated "contributing" resources are a result of their identification as "historic resources" under CEQA.

Under CEQA, the environmental effects of discretionary projects – i.e., projects that require jurisdictional permitting – is requisite. Specifically, relative to historical resources, the requisite determination is whether a permittable action may cause "substantial adverse change" to an historical resource, thus whether a given project will have a significant effect on the environment (from 15064.5[b]). This regulatory language is the crux of environmental review and which may be triggered by any permit proposing alteration to a property identified as an historical resource for the purposes of CEQA. The application of this CEQA requirement varies from project to project, depending on the nature of the replacement project and proximity to designated historical resources.

7.5 Historic Resource Information Access

While this summary of available historical resources documentation and its informational content has endeavored to be concise, this researcher and author spent an extensive amount of time ascertaining the location and extent of information regarding historical resource status. That extent of required effort affirms the City's own concerns, as stated in a paper entitled "Recurring Challenges with Implementation of the Core Area Specific Plan" (prepared by City of Davis Department of Community Development and Sustainability and Planning Commission Subcommittee on CASP Analysis and Recommendations, September 21, 2015). Namely, that the dense and complex layers of documentation make for difficult access to what should be readily accessible information.

For property owners and users who need to acquire information about individual properties, there are two basic portals available via the City's planning on-line information:

1. The Zoning Map identifies primary zoning for specific areas and parcels. For example, relative to the Core Area, the primary zones are Commercial Core (C-C), Mixed Use (M-U), Residential One- and Two-Family Conservation District (R-2CD), and Planned Development (P-D).
2. The Zoning Standards allows for access to information on individual parcels. The online access tool is easy to use and provides a selection of planning information for individual parcels.

Within the zoning map and standards, there is no provision for the simple identification of historical resources. Whether a given parcel is an identified, potential contributor to the conservation district is not available information. Even designated resources are not identified in the zoning information. So it does not appear that there is any ready access to the determination of a given parcel's historic resource status (understanding that one can visit or call the planning department, yet which is itself an often difficult or at least circuitous process, as well as being, in this information age, outmoded). And for the many existing properties that fall into the category of potential contributors, there does not appear to be any available lists identifying the contributing/non-contributing status, so detailed research is needed to ascertain such information.

Relative to historic resources, the R-2CD zone is the only one that implies and provides direct information about historic resources, as the "CD" refers to Conservation District zoning. While the R2-CD is embedded in the Zoning Map and Standards, there are several other zoning districts with key historic resource provisions:

- 40.13 Core Area Design (C-D) Combining District
- 40.13A Downtown and Traditional Neighborhood Overlay District

These latter zoning districts encompass the downtown core and surrounding neighborhoods and provide specific regulations for the treatment of properties via the Downtown Davis and Traditional Neighborhoods Design (DTRN) Guidelines. Though these guidelines are readily accessible, their applicability and access are circuitous. Plus, neither of these zones are referenced in the zoning map or standards.

Information access at other jurisdictions provides some useful examples. Smaller towns and cities tend toward basic and limited online planning information. The nearby City of Woodland, which has a historic preservation ordinance and program, appears to provide no online planning information, no less specific parcel information. The City of Benicia, which has a relatively sizable historical resource orientation, provides general but not specific planning and historical resources information. Conversely, and from the perspective that the provision of access to property information is an essential part of accessible government, the City of Berkeley allows for online access to detailed parcel conditions, including historical resource status. Likewise, and perhaps the bell-weather of open information access programs, the City of San Francisco hosts a property information database that provides extensive, parcel-by-parcel information and that is directly accessed via a "property information map."

7.6 Existing Conditions Maps

OVERVIEW

The following pages include several historical resource maps for the Downtown plan area:

- Figure 7.6.a: Map of designated historical resources within the downtown core and surrounding neighborhoods
- Figure 7.6.b: Map of properties showing historical resource designations/status
- Figure 7.6.c: Map of properties identified by historic eras/contexts

INTENT

The intent of these maps is to provide a clearer overall picture and understanding of the extent of historic resources:

- Figure 7.6.a: the *designated historical resources* map is also an existing document from the 2013 Core Area Specific Plan. Herein, it is highlighted to identify and tally the period/age of each designated historical resource for illustrative purposes.
- Figure 7.6.b: The *historic resource designation/status* maps illustrate:
  - Each designated and contributing historical resource
  - The identification of previously unsurveyed, age-eligible properties from the period of c1950-c1973
  - The identification of properties/resources less than 45 years of age (this relatively large category also includes properties and resources the age of which has not at this juncture been identified).
- Figure 7.6.c: The *historic eras/context maps* extends the illustration of properties based on their period of origin and with specific reference to established historic contexts as summarized in the consolidated 2015 *Historic Context Update*. Those historic contexts/eras are:
  - 1848-1904 – Pioneer/railroad era
  - 1905-1939 – Early 20th century and depression era
  - 1940-1958 – World War II and post-war era
  - 1959-1971 – Explosive growth era (note: in this existing conditions analysis, this era is extended to c1973 in order to encompass resources greater than 45 years of age based on year 2018, which is a standardly employed threshold age for historic resource status under CEQA)
  - 1973-present – Recent properties/resources (less than 45 years of age)

These maps also intend to illustrate historical and non-historical resource patterns for the specific plan area (with additional maps for Old East and Old North included in the appendix).

Based on the patterns illustrated in these maps, with the exception of the north neighborhood – which has relatively consistent patterns of age-related properties and the bulk of which have previously been identified as contributing resources – overall, the downtown and its neighborhoods contain:

- Few early (c1900) buildings
- Few and unrelated designated historical resources
- Occasional groupings of period-related properties
- Mixed contexts and periods
- Changing scale over time
- Extensive recent (1950+) properties and resources

Thus, the downtown and its neighborhoods predominately consist of non-historical resources of the mid-to-late 20th century up to the present. While the north neighborhood has a consistent pattern of age-related properties, the properties at its edges also embody the substantial changes to the fabric of the downtown and its neighborhoods.

Figure 7.6.a: Existing Designated Historic Resources with Historic Eras identified

MAP LEGEND

1870-1904
7 TOTAL RESOURCES

1905-1939
25 TOTAL RESOURCES

1940-1950
1 TOTAL RESOURCE

Figure 7.6.b: Existing Historical Resource Status (Downtown & University/Rice Neighborhood)

Figure 7.6.c: Existing Resources Eras (Downtown & University/Rice Neighborhood)

Figure 7.6.d: Existing Historical Resource Status (Old East Neighborhood)

Figure 7.6.e: Existing Historical Resource Status (Old North Neighborhood)

Figure 7.6.f: Existing Resources Eras (Old East Neighborhood)

Figure 7.6.g: Existing Resources Eras (Old North Neighborhood)

7.7 Previously Unsurveyed Properties

For the City of Davis as a whole, resource identification and inventory efforts are current, the most recent being in 2015 and which inventoried and evaluated citywide properties dating into the 1970s. However, for the downtown and surrounding neighborhoods, the evaluation of properties extends into the mid-1950s. Within the Downtown Core and surrounding neighborhoods there exists approximately 100 properties that date to the c1950 – c1973 period and which have not been surveyed. In the specific plan area (Downtown and University/Rice), there are some 48 unsurveyed properties from the mid-century period.

One requirement of the current Core Area Specific Plan process is to provide these mid-century historical resource inventories. Those individual inventories are not provided as part of this existing conditions documentation, as their extent and identification were first required. At this juncture, those mid-century resources have been specifically identified, researched and photographed. Within the previous maps, their extent and location have also been placed in context with the other eras of built resources, as well as in the context of extant historical resources. Additionally, as noted above, a range of earlier properties/buildings that have escaped being inventoried will be identified and surveyed in this overall plan effort.

Rather than include images of each, examples of these mid-century resources are included in the selected and attached property photos of c1950-c1973 resources, for review and consideration, and which are organized by area (downtown, west, east and north neighborhoods) and prioritized by the types of existing resources:

- Public buildings
- Institutional buildings
- Commercial buildings
- Multi-unit residential buildings
- Residential buildings

This organization intends to identify and prioritize potential historical resources with respect to their relative public aspect, as historical resources are equivalent to environmental resources with concomitant public benefits and detriments. Thus, in general, public buildings are of relatively greater historical importance than private residences. Further, these categories and their provided examples encompass the full range and character of specific mid-century resource types.

As with the existing conditions maps, these survey photos identify several patterns of the c1950-c1973 period in the downtown and surrounding neighborhoods:

- The relatively few yet consequently relevant public buildings of this period
- The existence of a grouping of period branch bank buildings
- The near-total lack of architecturally substantial commercial buildings
- The existence of relatively numerous and relatively large-scale apartment buildings and complexes
- The overall lack of detached, single-family development beginning in the mid-century period
- The substantial diminishment of a detached single-family context throughout the specific plan area.

EXAMPLES OF EXISTING UNSURVEYED PUBLIC BUILDINGS IN DOWNTOWN (c1950-c1973)

526-530 B Street (Old Emerson Jr. High School, 1949)

526-530 B Street (Old Emerson Jr. High School, 1949)

520 Fifth Street (City of Davis Central Fire Station, 1964)

315 G Street (former United States Post Office, 1966)

EXAMPLES OF EXISTING UNSURVEYED INSTITUTIONAL BUILDINGS IN DOWNTOWN (c1950-c1973)

302 G Street (former Davis Enterprise newspaper plant, 1966)

230 C Street, AT&T (Pacific Telephone & Telegraph, 1962-1969)

EXAMPLES OF EXISTING UNSURVEYED BRANCH BANK BUILDINGS IN DOWNTOWN (c1950-c1973)

340 F Street (Wells Fargo Bank, 1964)

325 E Street (Bank of America, 1971)

300 E Street (former Bank of California, 1969)

330 E Street (1971)

304 F Street (Central CA Federal Savings, 1970)

EXAMPLES OF EXISTING UNSURVEYED COMMERCIAL BUILDINGS IN DOWNTOWN (c1950-c1973)

415 Second Street (1955)

337 G Street (1969)

208-212 F Street (1957)

231 E Street (1968)

140 B Street (1962)

221 D Street (1964)

603 Second Street (Brinley Building, 1962)

700-706 Second Street (1958)

229 C Street (1961)

EXAMPLES OF EXISTING UNSURVEYED MULTI-UNIT RESIDENTIAL BUILDINGS IN DOWNTOWN (c1950-c1973)

411 First Street (1966)

407 First Street (1959)

321-327 D Street (1956)

109-117 C Street (1969)

EXAMPLES OF EXISTING UNSURVEYED COMMERCIAL BUILDINGS IN UNIVERSITY NEIGHBORHOOD (c1950-c1973)

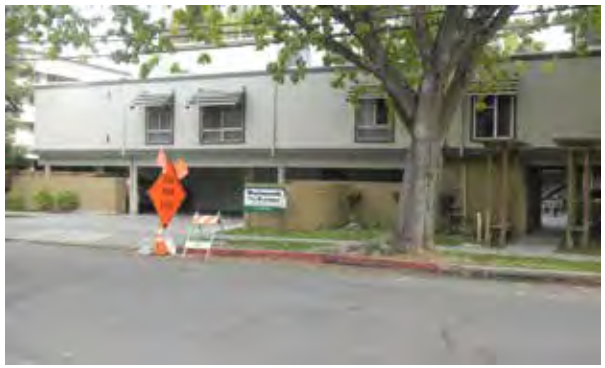
255 B Street (former Sambo's, 1973)

EXAMPLES OF EXISTING UNSURVEYED MIXED-USE BUILDINGS (COMMERCIAL/RESIDENTIAL) IN UNIVERSITY NEIGHBORHOOD (c1950-c1973)

223 Third Street (1970)

EXAMPLES OF EXISTING UNSURVEYED MULTI-UNIT RESIDENTIAL BUILDINGS IN THE UNIVERSITY NEIGHBORHOOD (c1950-c1973)

230 A Street (1967)



224 A Street (1959)

425 University Avenue (1972)

110 Russell Boulevard (1970)

EXAMPLES OF EXISTING UNSURVEYED RESIDENTIAL BUILDINGS IN THE UNIVERSITY NEIGHBORHOOD (c1950-c1973)

203 Fourth Street (1954)

232 Second Street (1959)

211 A Street (1957)

385 B Street (1955)

EXAMPLES OF EXISTING UNSURVEYED MULTI-UNIT RESIDENTIAL BUILDINGS IN THE OLD EAST NEIGHBORHOOD (c1950-c1973)

512 I Street (1968)

1205 Fifth Street (1963)

301 K Street (1961)

320 K Street (1963)

505 I Street (1962)

1003-1011 Fifth Street (1966)

EXAMPLES OF EXISTING UNSURVEYED MULTI-UNIT RESIDENTIAL BUILDINGS IN THE OLD EAST NEIGHBORHOOD (c1950-c1973)

401 I Street (1964)

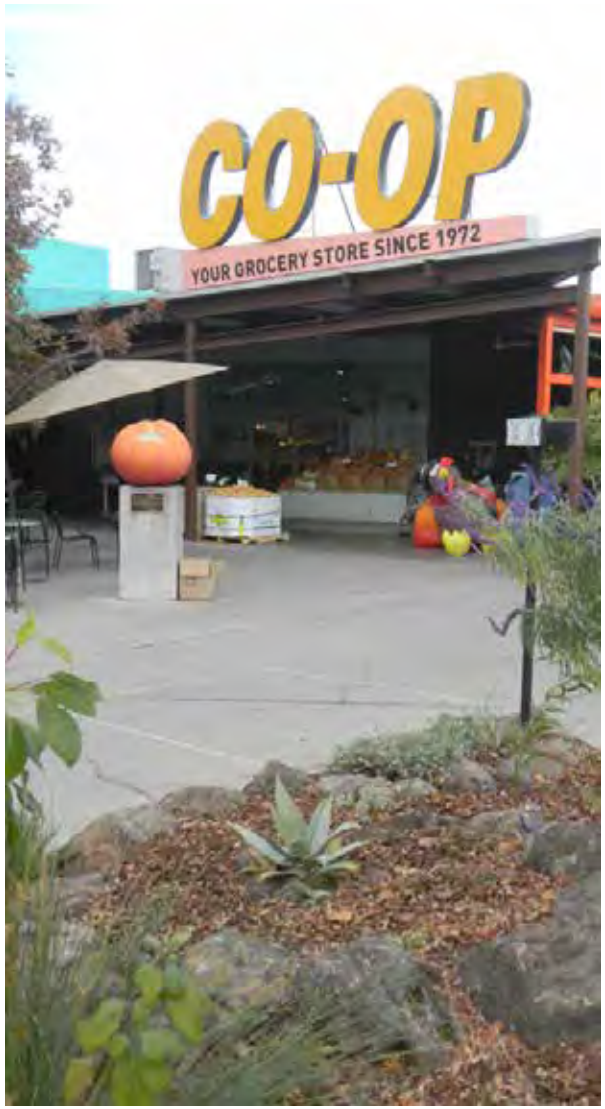
1007 Third Street (1965)

316 I Street (1962)

230 J Street (1966)

EXAMPLES OF EXISTING UNSURVEYED COMMERCIAL BUILDINGS IN THE OLD NORTH/NORTH CORE NEIGHBORHOOD (c1950-c1973)

500 G Street (1959)



620 G Street (former Safeway, 1949)

620 G Street (former Safeway, 1949)

630 G Street (1961)

7.8 Chapter Summary of Findings

OVERVIEW

- In the downtown and its neighborhoods (University, East and North), which is the requested breadth of this historical resources effort, there are just 33 designated historical resources, no historic districts, and there have been have been just two historical resource designations since 1998 (one each in 1999 and 2008).
- The basic Historical Resource Management ordinance provides clear information and direction re: the identification of and specific actions related to designated historical resources;
- Beyond the explicit historical resource ordinance, a conservation overlay district encompasses the downtown and its neighborhoods. Therein, despite the lack of any designated historic districts, there are some 180 properties that have been individually inventoried and identified as individual "contributors" to the conservation overlay district.
- While the basic ordinance itself is simple and clear, the conservation overlay district is unclear and confusing. It does not provide any specific direction on the treatment of potential historical resources so leaves that determination to individual discretion.
- Historical resource information access is very difficult. The layers of associated regulation and the extensive documentation is dense and, while available, largely inaccessible to any unskilled user (for example, the completed historical resource inventory forms for the downtown areas alone amount to some 1500+ pages of unindexed documentation).

OPPORTUNITIES/CONSTRAINTS

Overall, the downtown and its neighborhoods contain:

- Few early (c1900) buildings
- Few and predominately unrelated designated historical resources
- Occasional groupings of period-related properties (with the exception of the substantially contiguous Old North neighborhood)
- Mixed contexts and periods
- Changing scale over time
- Extensive recent (1950+) properties and resources

With respect to the built resources of the c1953-c1973 period, in the downtown and surrounding neighborhoods, several patterns emerge:

- The relatively few yet consequently relevant public buildings of this period
- The existence of a grouping of period branch bank buildings
- The near-total lack of architecturally substantial commercial buildings
- The existence of relatively numerous and relatively large-scale apartment buildings and complexes
- The overall lack of detached, single-family development beginning in the mid-century period
- The substantial diminishment of a detached single-family context throughout the specific plan area.

AREAS FOR RECOMMENDED FURTHER STUDY

- The community should participate in the confirmation or modification of existing historical resource designations.
- The inventories of currently unsurveyed properties in the downtown area and conservation overlay districts should be completed. With community participation, determinations regarding any additional potential designations should be made.
- A consolidated list of properties and their historical status/significance should be created including: properties inventoried; properties not deserving to be inventoried at this time (with explanations); eligible properties for designation from the 2003 survey; currently unsurveyed properties found to be eligible for designation (DPR forms); contributors worthy of the status; and contributors not worthy of the status.
- The community should determine how the information above affects new development opportunities in the Downtown Plan.
- Property specific historical resource information and documentation should be made readily accessible to the public.

TRADE-OFFS TO BE ADDRESSED

- The Downtown Plan process should seek to integrate the objectives of maintaining/enhancing the downtown as a vibrant city center along with maintaining/enhancing historical resources. This approach should be based on which historical resources the community agrees upon and in consideration of how these determinations will affect future changes in the downtown.

This page intentionally left blank.

Sustainability 8 chapter

Author: Farr Associates

8.1 Overview

OVERVIEW

The City of Davis has long been recognized as a national leader when it comes to progressive research and policy related to sustainability and the effects of climate change. Starting in the 1970s with The Davis Experiment, the City of Davis was one of the first municipalities to actively address energy use, material efficiency, curbside recycling, and alternative transportation in planning for its built environment. With an engaged population of citizens involved in advocacy, as well as the significant partnership with the University of California-Davis (UC Davis), the City has a strong foundation from which to continue its leadership regionally, state-wide, and nationally.

In 2016, the City of Davis was awarded the Institute for Local Government's Beacon Spotlight Award for sustainability best practices activities. The award recognized accomplishments in greenhouse gas reductions, agency energy savings and agency greenhouse gas emissions. The City received a silver level award for its overall sustainability efforts and a platinum level award in the sustainability best practices category.

The California Environmental Quality Act (CEQA) requires that states and local agencies identify the significant environmental impacts of their actions and to avoid or mitigate those impacts. Consequently, starting in 2007, Davis, in partnership with UC Davis and local stakeholders, began to closely study and quantify the effects of current policies on the environment. The outcomes of these studies informed the City's first Climate Action and Adaptation Plan in 2010.

While Davis has a strong sustainability background, there is still room for improvement. A clear focus on carbon neutrality can help align policy decisions and guide physical planning. For example, anticipating autonomous vehicles means planning for physical transformation of the downtown urban environment of downtown to facilitate less parking and more drop-off zones; additionally, a carbon-neutral community must have adequate and thoughtful battery storage.

Additionally, staying at the cutting edge of sustainability means conducting an update to climate plans and the GHG emissions inventory, both of which are overdue, as well as conducting a risk analysis and vulnerability assessment.

GREEN BUSINESS PROGRAM

The City has a green business program, Partners For a Greener Davis, that educates and encourages Davis businesses to operate in an environmentally friendly fashion. Green Business Partners receive recognition for their environmental efforts, and may also save money by reducing water and energy use. For more information on the program, visit GreenerDavis.org.

ENVIRONMENTAL RESOURCE DIVISION

The City reorganized some existing staff and programs to bring them all under one Division within Public Works to identify opportunities to collaborate on outreach and resources to further facilitate and build the robust nature of these programs. The programs that have been enhanced by this reorganization are: Solid Waste Reduction/Recycling, Water Conservation, Wildlife Resources, Integrated Pest Management, Water Production, Wastewater and Stormwater Quality.

CITY OF DAVIS CLIMATE ACTION & ADAPTATION PLAN

GHG REDUCTION TARGETS

- 2010 - Reduce to 1990 levels
- 2015 - Reduce to 15 percent below 1990 levels
- 2020 - Reduce to 28 percent below 1990 levels
- 2020-2040 - Average 2.6 percent reduction/yr to reach 80 percent below 1990 levels by 2040
- **2050 - Carbon Neutral**

targets as time progresses. As noted in the plan, early GHG reductions are noted as being most beneficial for mitigation of the most severe impacts of climate change.

D-CAAP STATUS

Over the subsequent seven years, the City tracked its progress on these measures, as noted in the 2017 City of Davis State of the City report. The 2010 D-CAAP is behind in terms of the latest standard components of a climate action plan. The following legislation affects sustainable planning in the Core Area and relate to D-CAAP updates needed:

Senate Bill (SB) 32 – The 2010 D-CAAP does not include clear guidance on how to assess the City's consistency with SB 32, which sets a new statewide GHG emissions reduction target of 40 percent below 1990 levels by 2030. Additionally, it does not clearly demonstrate how the 2050 target would be achieved.

SB 350 and Assembly Bill (AB) 802 – An updated D-CAAP should leverage and support SB 350, which requires the Energy Commission to establish and meet targets to double energy efficiency in buildings; and AB 802, which requires the Energy Commission to implement a statewide benchmarking program for nonresidential buildings. Desired City efforts include a new local GHG offset program and updated GHG thresholds of significance.

2017 Climate Change Scoping Plan Update – The City will need to update the CAAP and GHG thresholds to ensure that they are consistent with this new guidance, which recommends the use of specific GHG reduction thresholds for local government planning and project-level analysis, and serves as an opportunity to incorporate more robust environmental justice, sustainability, adaptation and resiliency, and other sections not previously required or addressed in the existing CAAP.

SB 379 – Under SB 379, general plans must include a climate vulnerability assessment and adaptation measures, or refer to a local CAAP. Currently, the 2010 D-CAAP does not include sufficient detail to meet SB 379's requirements, nor does it use the latest vulnerability and assessment tools and policy guides issues since 2010.

SB 100 – While SB 100 did not pass in 2017, there is potential for this bill to pass in the near future. It would have increased the state requirement to obtain its electricity from renewable sources to 60 percent from 50 percent, as well as setting a path to 100 percent carbon-free electricity by 2045. The 2010 D-CAAP does not currently address this change.

CEQA Guidelines Section 15183.5 – The existing CAAP does not currently meet the criteria for a qualified plan for the reduction of GHG emissions per CEQA Guidelines Section 15183.5.

2010 D-CAAP – While minor and informal reviews have been conducted since 2010, none of the formal scheduled reviews outlined in the 2010 D-CAAP, including an update in 2015 and annual implementation plans from 2012-2015, have been executed.

While the D-CAAP has informed subsequent plans and policies since its inception, its goals and strategies have never been formally incorporated into either the Davis General Plan or Core Area Specific Plan. While this document will not go through all of the goals and strategies identified in the D-CAAP in detail, it will highlight some of the items most likely to have the greatest impact on Downtown Davis (Core Area) as it moves forward.

8.2 Topic Areas

MOBILITY

The D-CAAP sought to de-emphasize the impact of individual vehicles by prioritizing transit, walking, and biking. Within mobility, the City identified three core objectives:

- Reduce daily vehicle miles traveled by 10 percent per household
- Increase the overall efficiency of passenger vehicles by five percent
- Replace one percent of fuel-using passenger vehicles operated by Davis residents with locally sourced bio-fuels

Within each of these objectives, the City identified multiple strategies to achieve these goals, including but not limited to: improved bike and car share infrastructure; studying transportation and shuttle demand; and street design improvements.

Progress

Since 2010, Davis has implemented many mobility-focused policies and initiatives. Some of these programs include carsharing (available as of 2017) and bikesharing (coming May 2018), bicycle infrastructure improvements and action plan, and electric vehicle charging infrastructure projects in 2016 and adpoted the Davis EV Charging Plan in 2017 (Figures 8.2.a and 8.2.b). Most recently, the Davis Transportation Implementation Plan (2017) outlines the many projects both considered and currently underway, several of which impact Downtown Davis. In addition, Davis is a member of the Sacramento Area Council of Government (SACOG) Regional Transit-Oriented Development and Sustainable Communities initiative, focusing on transportation issues at a regional scale. The General Plan Transportation Element establishes a citywide VMT reduction goal of 39 percent - as modeled by SACOG – to achieve a 61 percent reduction in GHG emissions from transportation by 2035.

At less than 16,000 miles annually, vehicle miles traveled (VMT) per household in Downtown Davis is among the lowest in the City (per the Center for Neighborhood Technology (CNT) 2017 H+T Index). For additional information on autonomous vehicles, transportation demand management implementation, and parking structure changes, please reference the Transportation chapter of this Existing Conditions report.

Opportunities in Downtown Davis

Today, the concept of bio-fuels is contentious, especially concerning land-based crops. Corn-based ethanol in particular poses risks to local biodiversity, water bodies, and air quality; in fact, corn-based ethanol produces only slightly more energy than is required to produce it. Negative externalities including emissions from land use, groundwater depletion, loss of biodiversity, and nitrogen fertilizer impacts make it difficult to determine if there is a net benefit in terms of climate change action.

As noted elsewhere in this document, mobility and transportation will be a key component of the renewed Downtown Davis Specific Plan. Per interactions with City staff, there is a possibility for Downtown Davis to become a demonstration for emerging transportation technologies including electric vehicle charging infrastructure, driverless vehicles, and smart city infrastructure.

Issues to consider include:

- **How can the Downtown Davis Plan consolidate and make visible the plans, programs, and transportation initiatives that Davis already has?**
- **How can Downtown Davis become a laboratory and case study for emerging transportation technologies?**
- **How can Downtown Davis emphasize active transportation and become a model of increasing walking and biking mode shares in an urban area?**

Figure 8.2.a: Dedicated Bike Lanes

Figure 8.2.b: Electric Vehicle Infrastructure

ENERGY

The D-CAAP sought to implement energy efficiency and renewable energy production strategies with the goal of reducing the climate impacts of energy use in the built environment. While other areas of focus within the plan require translation in terms of their GHG reduction impact, the benefits of efficient energy use are clear and direct.

Within Energy, the City identified two core objectives:

- Reduce total energy use in Davis by five percent from 2010 levels
- Produce five percent of total electricity used in Davis from renewable on-site or local sources

Progress

Davis has made significant progress in the realm of energy since 2010. To start, by 2015 the City exceeded its goals for the installation of photovoltaic (PV) panels by 27MW (initial goal was 2.6MW) (Figure 8.2.c). Consequently in 2015, the City adopted a revised target of an additional 21MW and 2,500 individual systems. In 2014, Davis adopted an ordinance that requires certain new residential housing and duplexes built after January 1, 2015 to install solar photovoltaic systems. As of the end of 2015, 2,152 rooftop solar installations occurred since 1999, with 1,717 installs since 2011, including 501 in 2016 and 380 in 2017. Currently, over 2,500 PV systems are producing 29.6 MW meeting over 60 percent of the Community's average annual electricity demand.

Figure 8.2.c: Utility-Scale Photovoltaics

CoolDavis, a local non-profit partner in supporting community outreach and awareness of the goals in the D-CAAP, runs programs to help increase rooftop solar installations. The City has also partnered with multiple UC Davis research centers to implement pilot programs, conduct research, and establish best practices.

The Yolo County Property-Assessment Clean Energy (PACE) Program has identified multiple financing options to assist property owners in making energy and water efficiency upgrades, including the CaliforniaFIRST, HERO, and YGrene financing tools.

In addition, the City successfully piloted the Davis Low Carbon Diet Pilot Program for residential buildings in 2008-2010. While this program is no longer active, it focused on providing households the necessary tools to understand their carbon footprint and identify strategies for reductions. Each household chose which strategies work best for them, and shared their successes with other participating households on their teams. The consumption component of reaching Davis' ambitious carbon neutrality goals cannot be understated; a Core Area that applies the latest technology, however green, can never be truly sustainable unless the underlying energy consumption is reduced.

Finally, Davis has adopted a Community Choice Energy (CCE) program in partnership with unincorporated Yolo County and the City of Woodland, and has established a joint powers authority (JPA) called Valley Clean Energy to roll out the program in mid-2018. At its most basic, a Community Choice Energy program will allow the local government to pool the electricity demands of the community, purchase power with higher renewable content, lower GHG emissions, and reinvest in local infrastructure. This program has the potential for substantial GHG emissions reduction impact, community outreach and engagement, and providing data-driven research. The Valley Clean Energy mission is to "deliver cost-competitive clean electricity, product choice, price stability, energy efficiency, and greenhouse gas emission reductions".

As an example of energy and conservation efforts, in 2014, the City implemented an outdoor lighting retrofit project to be completed by 2017. Over 20 parks and 50 miles of greenbelts had 1,200 high pressure sodium cobra lights replaced with energy efficient bi-level LEDs, which save over 60 percent compared to standard LED fixtures and over 85 percent compared to existing cobras. Completed in 2015, the City replaced 2,650 streetlights, reducing energy use by over 70 percent and improving lighting quality in neighborhoods and downtown. The City was one of the first in the county to retrofit traffic signals to LEDs in the early 1990s.

Opportunities in Downtown Davis

While significant progress has been made relative to renewable energy production, there is still room for improvement in terms of energy demand reductions.

For new projects across the country, net-zero development, while possible with current technology, still requires a significant investment in behavioral change to reduce energy demands up-front. In addition, there is still a financial premium associated with this type of construction which can be a deterrent to developers concerned with first-costs. The State of California will require net zero development for residential projects by 2020. The City is exploring standards for non-residential projects as well.

There is also the potential for some infill projects as grade-level parking needs are transformed by emerging transportation technologies and smart city infrastructure, and could include the latest in energy efficient and net-zero design for such projects. While all new buildings are stated to be net-zero in terms of their energy use for current and future development as part of the D-CAAP, the majority of the Core Area consists of existing buildings with existing occupants and energy demands, along with transportation and parking uses.

Consequently, the largest potential for energy use savings will be in deep energy retrofits for the existing building stock. These strategies could include retroactive insulation, high-efficiency window/door replacement, and improved residential and commercial heating and cooling systems.

Many unknowns still exist when it comes to emerging technologies associated with renewable energy. Shifting from natural gas to electricity, battery storage, microgrids and distributed energy options, and other related issues are opportunities to explore throughout the Core Area Plan.

Issues to consider include:

- **How can the Downtown Davis Plan address the climate change potential of existing buildings with suggestions for renovations and energy retrofits?**
- **What will the impact of emerging energy technologies (renewables, battery storage, district grids) be on the Core Area?**
- **How will emerging transportation trends impact the physical design of the downtown area and offer new opportunities for energy efficient and net zero energy and carbon infill projects?**

LAND USE & BUILDINGS

Land Use and Buildings are the next area of focus in the D-CAAP. Davis has been a leader in establishing aggressive building codes since the 1970s, when the innovative Davis Energy Conservation Building Code led to the creation of California Title 24. This 1972 Code required ceiling and wall insulation, consideration of building orientation, and limited unshaded windows (designed to reduce heat gain in summer and loss in winter), all novel requirements at the time. The topics of land use and buildings are not distinct silos of information; rather, they overlap with the other topic areas of the D-CAAP, including energy, transportation, waste, and community engagement.

Within Land Use and Buildings, the City identified four core objectives:

- Achieve Net Zero energy use in all new building and homes
- Achieve 41 percent reduction in GHG emissions in all new buildings and homes
- Create vibrant neighborhoods where 100 percent of Davis residents can easily walk or bicycle to meet basic daily non-work needs.
- Create vibrant, centrally located shopping and entertainment centers, with a particular focus on maintaining the Downtown as the commercial and entertainment center of the City.

Among the strategies outlined to achieve these goals, Davis proposed promoting mixed-use transit-oriented development, developing GHG standards and thresholds for new buildings, and reevaluating neighborhood design standards to consider the GHG impacts of their design.

Progress

To reach these early goals, the City has implemented a number of planning and construction strategies. Relative to building design, the City has had a Green Building Ordinance in place since 2008, and adopted the California Green Building Standards Tier 1 (CALGreen) Reach code for residential and non-residential development in 2011. Additionally, a requirement for Tier 2 energy component was adopted in 2017. This is a robust standard that dovetails with the International Building Code (IBC) suite of codes and regulations. This standard includes both mandatory and voluntary measures for residential and non-residential projects including site design, water use, indoor air quality, and waste diversion. It is a great starting place for the design and construction of high-quality buildings.

Since the early 2000s, Davis has consistently required local Reach codes to exceed the energy requirements of the Title 24 by 25 percent. In addition, the City is considering establishing Net Zero Energy codes for new residential buildings. Finally, Davis is working to create an energy benchmarking program for non-residential buildings.

Figure 8.2.d: Parkview Place in Downtown Davis

In terms of Land Use and Buildings, Davis has updated or implemented new plans throughout various areas, including protections to open space, updates to transportation policy, and now a re-examination of the existing Core Area Specific Plan. These new plans seek to incorporate and implement the suggestions of the D-CAAP more specifically and robustly, transforming the goals and best practices into implementable land use and building construction policy.

The 2015 Davis Future Renewable Energy and Efficiency Final Report (DavisFREE), funded by the California Energy Commission and City of Davis, developed comprehensive integrated renewable energy strategies and identified renewable production potential within the City, as well as initiated the creation of a Zero Net Energy retrofit guide.

There are a few local examples of sustainable, energy-efficient developments, including Village Homes in West Davis and Parkview Place in the Downtown Core Area (Figure 8.2.d).

Opportunities for Downtown Davis

As noted in the previous section, while the current plans and regulations do a good job of addressing new development, the majority of building energy use will continue to be from existing buildings. The Downtown Davis Specific Plan will seek to identify strategies to implement on all buildings, both new and existing, with the target of holistic GHG reductions for the Downtown.

Land use policies and development in Downtown Davis has remained slow but consistent for many years; however, the majority of Downtown remains one to two stories in density. To address the GHG reduction goals put forth in the D-CAAP, land use policies need to become more aggressive, especially when it comes to higher intensity mixed-use and transit-oriented development. More residents and services located in the denser areas of Downtown can take greater advantage of the energy efficiency of larger buildings, eliminate vehicle trips for both residents and services, and promote walkability throughout Downtown.

With the recommended form-based code approach to the Downtown Davis plan, recommendations for built form will inevitably be informed by a more systematic approach to improving energy efficiency in both new and existing buildings.

Providing shade is an important component of creating a walkable downtown, especially with increased heat and extreme heat events in the Central Valley. Street trees, with their multitude of functions, are beautiful shaders. Other infrastructure such as solar panels can also serve a dual purpose by providing shade in addition to power generation.

Issues to consider include:

- **Should the Downtown Davis Plan consider codifying sustainable design certification, and upgrades to existing CalGreen Tier 1 requirements for energy efficiency and carbon reduction goals, as a requirement for new construction and renovations?**
- **How does addressing density impact the other climate change indicators of the D-CAAP?**
- **Is a form-based code appropriate for Downtown Davis?**

CONSUMPTION & WASTE

Again, Davis has long been a leader when it comes to consumption and waste (Figure 8.2.e). In the early 1970s, the City was one of the first cities in the country to establish a municipal curb side recycling program. With the D-CAAP, the City recognizes that there is a clear connection between the movement of waste, both up and downstream, and GHG emissions.

Within Consumption and Waste, the City identified four core objectives:

- Reduce total solid waste generated by 10 percent
- Recover 75 percent of all waste generated
- Maximize the efficiency of the waste collection system
- Reduce water use by 10 percent over 2010 levels

Among the strategies identified in 2010 to achieve these goals, Davis proposed establishing residential compost programs and converting waste collection vehicles to alternative fuels. For water conservation, the City reduced water use substantially during the recent drought, recently permitted greywater reuse, and encouraged the conversion of turf to low water use landscapes. Additional information on water conservation efforts can be found in Chapter 6 Section 5.

Progress

In 2015, the City documented a total diversion rate of 62 percent of the total waste generated. This diversion rate has been achieved through a partnership with the City's waste hauler, Davis Waste Removal, which diverts all mixed paper, corrugated cardboard, glass, rigid plastics, aluminum, and steel beverage and food containers from the landfill stream. Per their stated goals, the City would like to get to 75 percent waste diversion by 2020. In 2013, the City council established a single-family variable rate system for solid waste services, giving residents critical feedback on their respective waste volume. The Partners for a Greener Davis program educates and encourages Davis businesses to operate in an environmentally friendly fashion.

Reducing food waste has been identified as the third-most effective global strategy to reduce GHG emissions (Drawdown, 2017). The City began its Organics Collection Program in July 2016. As of the 2017 State of the City Report, the City has collected over 5,600 tons of food scrap and yard materials waste that were otherwise slated for the landfill. The City continues to evaluate the frequency and efficiency of this service to appropriately address the City's organic waste removal needs.

In terms of waste water, in 2015, as part of the city's partnership in the Woodland Davis Clean Water Agency, Davis updated its Waste Water Treatment Plant to meet current discharge standards (Figure 8.2.f). This updated treatment process, along with updated filtration methods, will enable the City to potentially reuse treated waste water for different purposes. Because of the upgrades, the adjacent wetlands will no longer be necessary for waste water treatment purposes, and instead will be maintained solely to promote local habitat and biodiversity. Also, in 2014, the City permitted its first residential greywater installation, and helped provide residential water data monitoring through the WaterInsight program.

Opportunities for Downtown Davis

While there has been clear progress made since 2010 in terms of waste diversion, recent documents do not indicate if there has been an overall reduction of total waste generated across the city. Diversion addresses waste once it has been used by the consumer or resident and becomes part of the waste stream. Waste use reduction, however, incorporates many facets, such as the availability of goods in proximity to residences and businesses, the types of goods being purchased, the price of recycled materials, and the efficiency of the products once they are used (i.e. can they be disassembled or recycled for reuse), in order to eliminate waste both upstream and downstream. This obviously is more complex than diversion, but is worth addressing in the update to the Downtown Davis Plan. To assist with this effort, the Green Building Certification Institute (GBCI) has developed the TRUE certification system, a third party certification standard focused on a holistic approach to waste reduction, diversion, and re-use in buildings.

Many state and city regulations require the separation of recyclable and/or compostable materials: AB 939, which requires all California jurisdictions to divert 50

Figure 8.2.e: Waste Diversion by Davis Waste Removal

percent of their solid waste from landfills; AB 341, which requires businesses that meet certain waste generation thresholds to have recycling services; AB 1826, which requires businesses to recycle organic waste, depending on the amount of waste they generate per week; and City of Davis Municipal Code 32.01.065, which requires that recyclable and organic materials be diverted from trash; and City of Davis Municipal Code 32.06, which requires all food and beverages be provided with reusable, recyclable, or compostable serving ware.

One of the challenges in downtown Davis is the lack of space for recycling and organics collection bins. Many businesses only have small trash enclosures that can fit only a few bins—enough to haul away their waste as trash, but not enough space for bins to properly separate organics and recycling for diversion.

Also, as the availability and price of water is becoming an increasingly critical issue in California, the Downtown should continue to target water use reductions for both new and existing buildings. High-efficiency, low-flow fixtures are readily available on the market that make dramatic reductions in water use demand possible. Efficient process & domestic water use is addressed in the California Green Building Standards, which set new targets for low water use fixtures for both residential and non-residential properties; however Davis has the opportunity to adopt even more stringent standards, as it has done consistently historically.

Figure 8.2.f: Woodland Davis Clean Water Agency

In addition, on-site water re-use and treatment technologies have also become increasingly viable in terms of return on investment as the prices for water continue to increase. The ability to capture water on-site for treatment and re-use in buildings should be considered for Downtown. In addition, stormwater capture and diversion on Downtown streets and sidewalks should focus less on diversion and more on on-site capture and infiltration. Rainwater captured onsite can be used for supplemental irrigation. Many sites with turf in landscaping in the Downtown Core have been renovated to remove turf and replace these areas with low water use plantings and vegetation to enhance water quality in Stormwater runoff. The replacement of remaining turf not serving a community benefit should be promoted.

Issues to consider include:

- **How can the Downtown Davis Plan move beyond waste diversion to address comprehensive waste reduction for businesses and residences?**
- **How can the Downtown Davis Plan include opportunities to maximize existing space available to businesses for their waste diversion instead of just using these spaces for trash bins?**
- **Should the Downtown Davis Plan promote piloting aggressive water re-use strategies (greywater, on-site treatment, heat recapture) with the goal of dramatically reducing water and energy demands and improving resilience?**

FOOD & AGRICULTURE

Davis is located in close proximity to some of the richest and productive farmland in California. In partnership with local farmers, the agricultural expertise of UC Davis, and an engaged citizenry concerned with health and well-being, the City has been a leader in addressing the relationships between food production and consumption and GHG emissions.

For Food and Agriculture, the city identified two core objectives:

- Increase consumption of local food by 10 percent
- Reduce consumption of carbon intensive food

Among the strategies identified by the City in 2010 to address these goals were the establishment of food consumption baseline metrics; creation of community farms, and the education of community members on the carbon impact of the foods they purchase and consume.

Progress

The City owns conservation easements on more than 4,700 acres of private property to remain in agricultural use for perpetuity.

The City, and the Downtown specifically, already has a great food culture. The Downtown features Davis' biweekly Farmer's Market, which attracts thousands of customers and offers goods from local and regional farms;the Davis Food Co-Op is located just north of the Study Area (Figure 8.2.g).

Opportunities for Downtown Davis

While food production and consumption is well represented, small-scale food manufacturing, as well as food storage and distribution, fits well in a mixed-use district like the Downtown. Small-scale manufacturing of food-related goods in a commercial area with large retail windows can create an additional layer of dynamism and walkability.

Issues to consider include:

- **How can local food businesses (groceries, coffee shops, cafes, restaurants) in Downtown work together to promote local agriculture (group purchasing, seasonal menus, combined composting)?**
- **Is small-scale manufacturing and distribution of food-related goods appropriate in Downtown?**

Figure 8.2.g: Local Food Co-Op

COMMUNITY ENGAGEMENT

The City has a long history of engaging its citizens when it comes to addressing critical issues facing their community. Mitigating the effects of climate change is perhaps the most critical issue affecting Davis and its future. Accordingly, Davis strives to make its residents the owners of its carbon future through robust community engagement on the causes and impacts of climate change (Figure 8.2.h).

Regarding Community Engagement, the city has one main objective:

- Motivate all Davis residents and businesses to change their behavior in ways that reduce carbon emissions.

To achieve this objective, CoolDavis developed a multi-year plan to engage at least 75 percent of households to participate in GHG emissions reduction programs. The City and Cool Davis use the standards of Community Based Social Marketing (CBSM) to include community input and oversight of programs related to public health and the environment.

Progress

On a macro-scale, due to its engaged and passionate citizenry, Davis has enjoyed regular robust participation in public meetings related to sustainability and climate change topics & initiatives, including extensive public input during development of the D-CAAP. On the individual household level, the Davis Low Carbon Diet Program was successful in helping participating community members identify aspects of climate change and energy-use reduction that were personally motivating. Current efforts include a 'Cool Homes' program organized by Cool Davis, which encourages

residents to be aware of energy efficiency and carbon reduction measures that they can undertake.

Opportunities for Downtown Davis

Providing data that are actionable, relevant, and timely is key to further leveraging the existing motivations of Downtown community members. Buildings that provide occupancy-related data offer occupants the chance to change behaviors. The success of behavior change programs increases when there is a group leader that checks in with group members, informally monitors progress, and promotes accountability.

Often, behavior changes are encouraged through technological rather than structural fixes. For example, elevators are made more energy-efficient rather than encouraging people to ditch the elevator entirely and take the stairs. A structural fix - in this example, when open stairwells are presented as the primary mode of vertical movement in a building - is often more effective. With a renewed emphasis on wellness, the easy choice should be the healthy choice across Downtown.

Issues to consider include:

- How can having a critical mass of residents and businesses as part of dense, mixed-use development in Downtown help accelerate community-focused sustainability initiatives?
- To improve visibility and public awareness, should design features within Downtown, including signage, landscaping, and streetscapes, provide real-time information on sustainability metrics (renewable energy, VMT, waste diverted)?

Figure 8.2.h: Community Engagement and Advocacy

GOVERNMENT OPERATIONS

Davis consistently "puts its money where its mouth is" in terms of demonstrating leadership on energy efficiency and GHG reductions in the maintenance and operations of its facilities.

In the D-CAAP, for Government Operations, the city had one main objective:

- Reduce GHG emissions from City operations 41 percent below 2010 levels (meeting the 2020 target)

To accomplish this goal, the City sought to install energy efficient lighting, transition city transportation fleet to high-efficiency alternative fuel vehicles, install reflective hardscape for roads and parking lots, and implement city policies focused on waste, water, and energy-use reductions.

Progress

Davis City Hall is fully powered by the PVUSA solar farm to the northeast of the City. The City also has plans to retrofit historic Davis City Hall to net zero carbon (Figure 8.2.i). From 2014-2016, Davis replaced greenbelt and park lighting with more efficient LEDs. The City also has a pilot program for sensor-activated streetlights. In terms of water use, irrigation activities in City-owned green areas have been updated to reduce overall water use, including weather-based controls, flow-sensing, and deficit based watering systems. Finally, in terms of waste, the City has implemented a comprehensive program for purchasing, eliminating waste, and promoting recycled materials.

Opportunities for Downtown Davis

With the coming of connected vehicles, connected cities, and the Internet of Things, there is an opportunity to treat public infrastructure within the Downtown area as public assets able to support advanced data in the future. Such infrastructure can then be more responsive to the expectations of the neighborhood, while minimizing maintenance and environmental impacts.

Issues to consider include:

- **How can all government facilities within Downtown further reduce their energy, water, and materials demands?**
- **Can increased density, multiple uses, and self-sufficient developments in the Downtown assist in consolidating and making government operations more efficient?**

Figure 8.2.i: Davis City Hall

ADVOCACY

Davis is eager to embrace legislation that will further its ability to reach its GHG reduction goals. Accordingly, there is an opportunity to push forward updates or changes to policy that address this agenda. Again, this is not the first time that the City has been a leader in policy implementation, as the Davis Energy Ordinance established in the 1970s greatly influenced the subsequent California Energy Code in the 1980s.

In the D-CAAP, for Advocacy, the city had one main objective:

- Identify five key legislative or regulatory climate change issues that would assist the City in meeting its GHG targets and devote adequate resources to positively influence outcomes

Among the strategies identified in the D-CAAP were potential legislation to pilot local buy-in renewable energy programs, carbon off-set accounting, and local carbon taxes.

Progress

As of 2017, the Community Choice Energy program (see **ENERGY** section of this chapter) is on the verge of implementation. The City has also implemented or updated a number of other ordinances such as a waste diversion ordinance in 2007, plastic bag ban in 2013, the 2015 Davis Energy Efficiency Plan, the 2016 Electric Vehicle Charging Plan, and the Sustainability Implementation Plan for the Nishi Gateway.

Opportunities for Downtown Davis

The City has done a tremendous job in developing research agendas and piloting programs to further their climate change agenda. From conversations with City staff and stakeholders, the update to the Core Area Specific Plan presents an opportunity to transition these strategies from being encouraged or recommended to instead be more solidly codified. Again, Downtown as a distinct area of the City is a tremendous opportunity to test regulatory options as a case study before committing to implementation citywide as part of an update to the General Plan.

Issues to consider include:

- **How can the Downtown Davis Plan consolidate and make visible the tremendous plans, programs, and climate change initiatives that Davis already has in place?**
- **How can the Downtown Davis Plan translate broad recommendations into implementable best practices accessible to building owners, developers, and residents?**

CLIMATE CHANGE PREPARATION

Finally, as has become increasingly apparent in recent years with the observed volatility of global temperatures and documented climate-related crises in both California and across the country, the adverse effects of climate change are no longer something on the horizon. Scarcity of water resources, heat waves, and wildfires are all climate change-related phenomena that can potentially put residents of Davis at risk.

According to recent research, based on current projections, it is anticipated that temperatures in the Central Valley of California will increase 4 to 7 degrees Fahrenheit by the end of the century (Figure 8.2.j). This change in temperature has the potential to be compounded by the urban heat island effect, especially in the Downtown area. In addition, the number of days of extreme heat (101°F or more) are anticipated to increase from four days to 17 days by 2050, and to 45 by 2100, representing a significant hazard for vulnerable populations including the elderly, children, and the homeless. This increase in temperature will tax the energy infrastructure needed to keep the population cool in more extreme temperatures. Furthermore, extreme heat events will also have broad impacts on the natural landscape including the urban street trees and green infrastructure, as ell as the built landscape including roadways and vehicle infrastructure.

Figure 8.2.j: Extreme Heat

In terms of water, rising temperatures mean that precipitation will increasingly be in the form of rain as opposed to snowpack, making natural storage of fresh water in mountain lakes and rivers a less reliable source. The volatility of precipitation combined with increased temperatures can accelerate other climate change related phenomena including droughts and fires, each of which has a significant impact on the health of ecosystems and the people living in affected areas. This is especially true of California's Central Valley where water resources are critical to agriculture as both an economic engine and as a means to feed the population.

Accordingly, Davis would like to be proactive in anticipating risks and identifying strategies that will make the City more resilient in the future.

Regarding Climate Change Preparation, the City has one main objective:

- Adapt successfully to a changing climate

To accomplish this goal, the City has used the State Climate Adaptation Strategy Guide as a resource for assessing climate-related vulnerabilities including local food, water and energy supply, infrastructure, and public health. The D-CAAP also sought to study the costs, benefits, and risks associated with these vulnerabilities and prioritize preparation strategies likely to have the greatest impact.

Progress

UC Davis, as part of the Policy Institute for Energy, Environment, and the Economy, has spearheaded the creation of the Climate Adaptation Initiative. As a founding member of the Capital Region Climate Readiness Collaborative (CRCRC) the Climate Adaptation Initiative acts as the liaison between climate experts in the academic community and regional policy-makers. They, along with their committed partner organizations, are a valuable resource for identifying specific risks and working with communities to proactively implement adaptation strategies. The Climate Adaptation Initiative will be an important resource for both the General Plan update and the Downtown Davis Specific Plan.

Also, by adopting net zero carbon goals ahead of state goals, Davis is well-positioned to address climate change adaptation and mitigation strategies relative to energy and water use. Regional and municipal attention to issues including droughts, urban heat islands, air & water quality, and flooding; electric vehicles, renewable power infrastructure, and clean water supplies; transit-oriented development and building energy standards has Davis well-positioned to adapt to a changing climate. Local energy generation and water reuse are important components of resilient cities in the context of climate change.

Opportunities for Downtown Davis

Social infrastructure is an essential contributor to community health in times of stressors and shocks.

Local, human-centered wellness helps improve the cumulative health environment of a community, from individual citizens to neighborhoods. Davis has a strong social infrastructure that can be supplemented with some of the strategies outlined earlier in this chapter. The Downtown Davis Plan should seek to identify strategies that strengthen and reinforce this human capital.

In addition to the strategies outlined in the State Climate Adaptation Guide, there are new third party resilience certification programs available that help focus efforts and establish metrics and protocols for evaluating performance. The RELi Standard, a recently launched program through the GBCI, helps urban design and building projects to comprehensively address adaptation by measuring performance against a series of resilience metrics including Hazard Preparedness, Community Vitality, Energy/Water + Food, and Applied Creativity, among others. The California Landscape Conservation Cooperative Climate Commons also lists software-based vulnerability assessment tools for use in California.

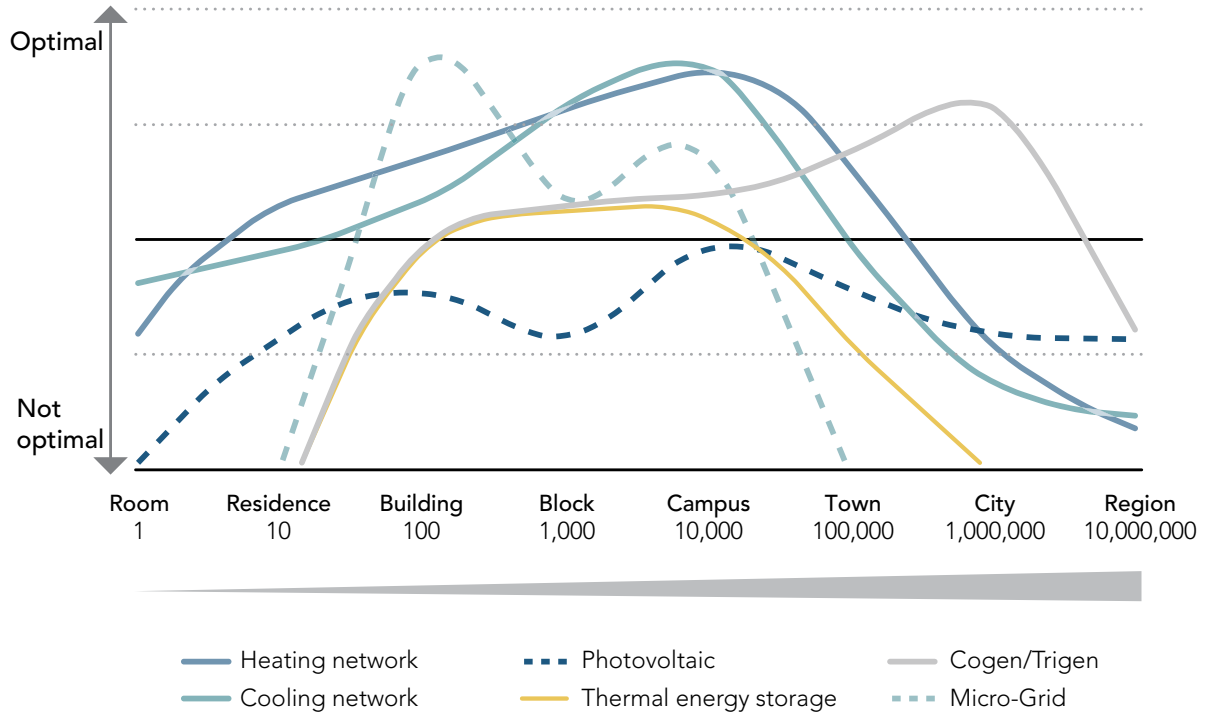
As noted in other sections of this chapter, addressing building and urban space design efficiency for both new and existing developments can help reduce energy and water demand on increasingly taxed infrastructure.

District systems have to be implemented at appropriate scales. For example, the historically optimal scale for a microgrid system is on the order of magnitude of ~100 people (Figure 8.2.k).

In terms of energy, current building envelope design best practices, such as adoption of Passive House (PHIUS+) standards for insulation levels, building systems performance, and air tightness can ensure comfortable interior environments year-round regardless of outdoor temperatures. Inclusion of best-in-class efficient cooling systems such as Variable Refrigerant Flow (VRF) with geothermal heat exchange can meet increased cooling demand without energy-use premiums. Lastly, individual battery storage technology for on-site renewables are becoming increasingly viable, allowing buildings to disconnect from the municipal grid. Each of these assessments and technologies needs to be factored into the future of the Downtown Core Area.

In terms of water, as noted in the **CONSUMPTION & WASTE** section of this chapter, reducing water demand reduces the potential risks associated with inconsistent water supply. On-site water treatment and reuse through either grey- or blackwater systems are becoming more and more viable as the construction industry and regulatory agencies become more familiar with the technologies. Such technologies are underutilized in the Core Area. Finally, there is a lack of green infrastructure throughout the City. Such street and landscape strategies focused on on-site infiltration, as opposed to relying

Figure 8.2.k: Viable District Energy Systems by Scale (Population)



principally on municipal sewers, can allow potential higher volumes of rain to be properly managed without overtaxing infrastructure.

Issues to consider include:

- **How does the Core Area define resilience?**
- **As the center for government and commercial activity for Davis, it is important that the Downtown remains productive, vital, and resilient. Are there steps the Downtown Davis plan can take to ensure that climate change risks do not interrupt these vital operations?**
- **Are there opportunities for self-sustaining district systems within the Downtown Davis Plan that could reduce pressure on public water and power infrastructure?**
- **If desirable, what would a Downtown Davis microgrid system look like, what would it cost, and how could it impact distribution upgrades?**
- **What can be included in the Downtown Davis Plan to address wellness at the individual and neighborhood scales?**
- **How can existing buildings and waste enclosures be updated to include sufficient space for recycling and organics collection?**

CONCLUSION

Davis has long been a local, statewide, and national leader when it comes to sustainable programs and policies. The update to the existing Core Area Specific Plan is another opportunity for the City.

First, it allows for the City to demonstrate its leadership, taking the goals of the 2010 D-CAAP and actually implementing them in a measurable way that can serve as a case study for the future. There is a huge desire from all levels of the community to make Downtown a showcase of sustainability.

Second, it provides a reminder that there is still work to be done in terms of updating the D-CAAP, and remaining at the cutting edge of urban sustainability. Areas of opportunity include energy and water retrofits to existing buildings, green and blue infrastructure on City streets, and updating mobility systems to accommodate fast-approaching changes in transportation technology including electric and autonomous vehicles.

Downtown Davis is a special place within the City where demonstrated outcomes will go a long way to establishing buy-in and creating the type of systematic, city-wide change required to meet Davis's important climate change goals.

8.3 Chapter Summary of Findings

OVERVIEW

This chapter provided an assessment of current sustainability efforts to date, roughly organized according to the D-CAAP categories of Mobility, Energy, Land Use & Buildings, Consumption & Waste, Food & Agriculture, Community Engagement, Government Operations, Advocacy, and Climate Change Preparation.

While the City has a great deal be proud of, there is room for improvement. Davis has a history of sustainability "firsts" and a strong grassroots sustainability movement, but few projects lately have become "pilgrimage sites" to which people come from afar to be inspired by. It has an ambitious and thorough Climate Action Plan, but the plan hasn't seen much implementation and is lacking key resilience and vulnerability assessments. Its bicycle infrastructure is award-winning, yet plenty of people still view streets as dangerous for several modes of transit. It has surpassed solar energy installations and capacity goals, but energy supply needs to be balanced with more aggressive energy demand reductions.

Most importantly, there is a unique opportunity for the Core Area to put the City's sustainability initiatives on display. What is "green" from above can still appear "vanilla" from the street: it is hard to see the sustainable policies and plans come alive on the ground in the Core Area. The Core Area Plan is a great opportunity to highlight the progress that Davis has made to date, and showcase where the City is headed as a leader in sustainability.

OPPORTUNITIES

- Existing Building Energy Retrofits
- Reducing Total Waste Generated
- Addressing Gaps in 2010 D-CAAP
- Incorporating Emerging Transportation Technologies Downtown
- Green Building and Urban Design Standards
- Enthusiasm and knowledge of local community (developers, owners, residents, UC Davis, etc.)

CONSTRAINTS

- Lack of financial and staff capacity to update D-CAAP and GHG emissions inventory
- Time horizon for availability of emerging transportation technologies is not well known
- Issues related to accessibility and equity downtown

AREAS FOR FURTHER STUDY

- Specific energy supply and demand modeling
- Infrastructure requirements of adjusting from natural gas to renewable power sources
- Assessment of feasibility/viability of district infrastructure downtown (e.g. microgrids)