



City of Davis

# GENERAL PLAN TRANSPORTATION ELEMENT

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# Acknowledgements

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The City's transportation system facilitates the movement of people and goods from one location to another, both within and beyond the City. Major travel modes include motor vehicles (both commercial and non-commercial), public transportation, paratransit, passenger rail, bicycling, and walking. The evolution of the community's urban form has dramatically influenced the local transportation system and subsequent preferences for travel modes.

Bicycling has been associated with Davis' civic identity for decades. A flat topography and mild climate contribute to favorable bicycling conditions. Beginning in the 1960s with the nation's first bicycle lanes, Davis has supported bicycle travel by developing an extensive network of dedicated bikeways and pedestrian ways ("greenbelts") which improve connectivity and reduce travel times within the City, making bicycling and walking safe and convenient. By 1980, Davis residents commuting to work by bicycle was estimated at 28% (US Census). However, as UC Davis and the community grew, the City expanded in all directions, increasing distances required to bicycle or walk to major destinations in town.

An efficient transit service run by students at UC Davis (Unitrans) began in 1968 with two vintage London double decker buses on two routes purchased by the Associated Students of UC Davis (ASUCD). The City soon partnered with ASUCD which opening service to all members of the community. Over time, the Unitrans fleet, routes, and ridership have expanded, with 49 buses on 15 routes, carrying over 3.5 million passengers/year (over 20,000 on a typical day).

Thus, by the year 2000, the estimated percentage of Davis residents commuting to work by bicycle declined to 14% (US Census). In the last decade however, a bicycling resurgence has occurred. Substantial effort has been expended by many in the community to raise awareness of the benefits of bicycling as an attractive, sustainable transportation mode. As a result, the estimated percentage of Davis residents commuting to work by bicycle has increased to 22% in 2010 (US Census).

Of Davis' employed residents, approximately 45% work locally and 55% commute to work outside of the local area. Approximately 53% of the jobs in Davis are held by non-Davis residents. These data assume working locally is having a commute time of less than 15 minutes, and include jobs in both the City of Davis and at UC Davis (Internal Housing Needs Analysis, BAE, February 2003).

# Setting

## Transportation Infrastructure

**Road Network.** The road network is the largest component of the City’s transportation system, facilitating the public’s ability to travel from one place in Davis to another. The City maintains approximately 163 miles of streets totaling 33 million square feet. The road network is separated into three primary categories of streets: Arterials, Collectors, and Local streets. Arterial streets are the main “arteries” of the road network, carrying the highest volume of traffic and represent 21% of the City’s road network. Collector streets generally connect residential neighborhoods to arterials and represent 14% of the road network. Local streets, primarily residential in nature, comprise the bulk of the City’s road network at 64%.

**Bikeways.** Bicycling is a safe, convenient, and enjoyable mode of transportation in Davis due to the mild climate and flat terrain. The City of Davis and the UC Davis campus are nationally acknowledged leaders in bicycle planning and use contributing significantly to the high volumes of residents and visitors who bicycle. In 2011, the City and UC Davis campus earned Platinum and Gold certification, respectively, from the League of American Bicyclists for bicycle friendliness. It is estimated there is an average of more than one bicycle per person in Davis.

As UC Davis expanded in the 1950s and 1960s, the demands for bicycle facilities increased. The primary concern of the 1966 City Council election was providing commuter bikeways on public streets. A trial system of bike lanes proved to be immensely popular and was rapidly expanded. The system steadily grew and matured.

In 2010, the City had 25 grade-separated bicycle crossings of major streets. Major bicycle routes consisted of approximately 55 miles of bike lanes, which are along streets, and 60 miles of shared bike/ped paths, which are separated from streets or within neighborhood greenbelts. These two types of bicycle facilities have different advantages for the different types of cyclists. Avid and experienced bicycle enthusiasts often prefer bike lanes, which generally allow more direct routes but can create conflicts with cars; young bicycle riders and beginning bicyclists often prefer quieter bike paths, even if they are less direct than bike lanes. Shared lane markings (“sharrows”) and on-street bicycle facilities have been strategically located in the downtown area. Bicycle parking facilities are provided throughout the city. The keys to Davis’ successful bike system are its linkages of key origins and destinations and its connections across physical barriers such as freeways, creeks and major streets.



The Davis greenbelt system is a critical component of the Davis bicycle network system. Consisting of interconnected off-street bicycle paths along spacious swaths of landscaped open space, the greenbelt system caters to both recreational and functional bicycle transportation uses. The greenbelt system allows Davis youth, in particular, to safely ride to and from major destinations. The 12-mile Davis Bike Loop connects many neighborhoods via the Davis greenbelt system and other off-street bike paths. Both Yolo and Solano Counties have adopted bicycle plans with bikeways that connect to those in Davis.

**Pedestrian Ways.** The pedestrian system includes facilities designed solely for pedestrians (sidewalks) and facilities designed to be shared by pedestrians and bicyclists. Some facilities are oriented toward basic circulation between destinations and other facilities are more recreational. Existing pedestrian circulation facilities in the City consist of sidewalks on almost every street, mid-block pedestrian passageways and pedestrian plazas in the Core area, off-street paths shared with bicyclists, neighborhood greenbelt paths, bridges, and other path systems.

Future pedestrian system planning is tied closely to land use planning, including access to community facilities. Other issues to be addressed include improving safety for pedestrians, especially at street crosswalks; meeting the needs of seniors and those with personal mobility challenges; and providing accommodations in a comfortable and attractive environment.

**Automobile Parking.** Vehicular parking is permitted on most streets in Davis. Preferential parking districts have been established in some residential neighborhoods in response to externally generated impacts. The downtown has a combination of public on-street and off-street parking and private off-street parking. Parking permits are available to downtown employees and located in designated areas so prime parking spaces are available for downtown customers and visitors.

**Bicycle Parking.** The City installs and maintains bicycle parking racks within the public right of way, primarily in the downtown. City staff also advises and encourages local businesses city-wide to provide sufficient and contemporary bicycle parking for both employees and customers. Additionally, the City of Davis adopted a bicycle parking ordinance which provides predictable bicycle parking standards for new and existing developments.

# Setting

## Transportation Services

**Bus and Para-transit.** The City of Davis is served by the following transit systems: Unitrans, providing bus service within the City; YoloBus, which connects Davis to other cities in Yolo County; and Davis Community Transit, which provides door-to-door demand response service to the disabled within the city. A map of existing and proposed transit routes is shown in Map 7.

Unitrans is funded by UC Davis student undergraduate registration fees, bus fares, and federal funding (including City Transportation Development Act funds passed-through to Unitrans representing approximately 13% of the Unitrans budget). Registered undergraduate students, seniors (age 60+), the disabled, and City employees ride the bus for free, while others pay a modest fare. Unitrans has a fleet of approximately 50 buses, including six new and vintage London double-deckers. Unitrans has 12 routes radiating from the campus as well as two routes that serve the senior and junior high schools during the school year.

Unitrans provides full service with 15 to 30 minute headways while UC Davis is in session. During breaks and summer quarter, the headways are less frequent, generally at one hour. Although the system primarily serves UC Davis students, a community goal is to increase ridership by the general public. With the growing interest in reducing single occupant vehicle use, bus ridership is expected to continue to increase. In fiscal year 2010-2011, Unitrans provided 3.5 million one-way passenger-trips (boardings), an increase of 58,000 one-way trips over the previous fiscal year.

YoloBus provides intercity transit service within Yolo County and also to Solano and Sacramento Counties. Headways are typically 30 minutes to an hour with commuter express buses to Sacramento and UC Davis offering service more frequently during peak commute hours.

Davis Community Transit (DCT) is an advance reservation, origin to destination para-transit service, provided by the City of Davis to customers that, due to a disability or health condition, are not able to use the fixed route service. DCT provides the ADA-mandated complementary paratransit service within the City of Davis for the fixed route bus services provided by Unitrans and YoloBus, serving over 16,600 riders in FY 2011-2012. DCT is funded by the federal Transportation Development Act. Typically, less than ten percent of the DCT expenditures are paid for by fares, with the remaining expenditures funded by Transportation Development Act (TDA) funds.

**Passenger Rail.** The Amtrak rail and Thruway bus services operate from the historic station in the core area. The Capitol Corridor is an intercity passenger rail route that was established in 1991 and

now provides service along a 170 mile corridor between San Jose and Sacramento/Auburn with stops at 17 train station and direct connections to 19 local public transit systems and five passenger rail systems. Since FY1998, ridership has increased 277% from 463,000 trips to 1,746,397 trips in FY 2012<sup>1</sup>. Capitol Corridor provides regular service through Davis between Roseville/Sacramento and the Bay Area. One Coast Starlight train arrives and departs daily with service via Sacramento north to Seattle and service via Oakland south to Los Angeles. One California Zephyr arrives and departs daily with interstate service west to Emeryville and east to Chicago, Illinois.

The historic station originally served passenger rail. However, its role has expanded to become the transportation focal point for the community and its visitors, serving as a multi-modal terminal for various modes of travel including rail, bus, and bicycle. Many Davis residents commute to Sacramento and the Bay Area, while UC Davis students and faculty arrive at the station and walk, bicycle (bicycles are allowed on Amtrak and Capitol Corridor trains as well as Thruway bus service), or transfer to Unitrans for the short trip to campus. The station is staffed by Amtrak personnel and includes amenities for passengers of all modes including a waiting room, automated ticketing kiosks, restrooms, vending machines, automobile parking, and bicycle parking.

Existing intercity transportation service between Davis and Sacramento consists of two modes: passenger rail and bus transit. The SACOG Metropolitan Transportation Plan identifies "Regional Rail" as on-going and expanding service between the communities and throughout the region. Sacramento Regional Transit's long-range plan, [TransitAction 2035](#), envisions regional rail service between Davis and Sacramento with up to 15-minute headways during peak commutes. Expanded bus transit is also envisioned with services being provided by and coordinated with Yolobus.

**Air Travel.** The only airport in the General Plan Planning Area (bounded on the north by County Road 27 and the City of Woodland planning area, on the east by the easterly boundary of the Yolo Bypass, on the south by Tremont Road, and the Pedrick Road-Interstate 80 interchange in Solano County, and on the west by an extension of County Road 93 to generally match the westerly boundaries of the General Plan areas of Dixon and Woodland.) is the UC Davis Airport, which serves general aviation. The Yolo County Airport, approximately one mile west of the Planning Area, is a general aviation airport serving private planes.

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<sup>1</sup> CCJPA: [2012 Capitol Corridor Performance Report](#).

# Setting

The Sacramento International Airport is located 12 miles northwest of downtown Sacramento, approximately 20 miles northeast of the City of Davis. It is served by major national and international carriers, as well as commuter airlines. YoloBus provides public transit service to the airport, and a private airport shuttle also provides service between Davis and the airport.

**Pedicabs.** Pedicabs, human pedal-powered taxis, currently offer service in Davis, with most trips occurring in the downtown area or on the UC Davis campus.

**Taxi Services.** Several taxi services operate within Davis, including the UC Davis student-run Topsy Taxi – a door-to-door taxi service for UC Davis undergraduate students - on weekend evenings during the school year.

## Transportation Programs

**Transportation Education.** The City of Davis plans and implements several education and encouragement programs under the auspices of the Ride Walk Davis program. These programs are designed to teach and encourage residents of all ages and abilities to use active forms of transportation, such as, bicycling, walking, and transit.

**Transportation Demand Management.** The City Council has adopted a Trip Reduction Ordinance, establishing requirements for employers located in Davis. The purpose of the requirements is to promote commuting options and to reduce vehicular trips. Major employers having 100 or more employees are required to file a Transportation Management Plan with a goal to reach an average of 1.5 employees per automobile during the peak commuting period. Employers with fewer than 100 employees and apartment complexes shall distribute and post information on commute alternatives. The Yolo Transportation Management Association (TMA) serves as a clearinghouse for information, coordination and marketing of all transportation commuting options.

**Alternative Fuel Vehicles.** The City has integrated various clean fuel technologies in its vehicle fleet and has invested in electric vehicle infrastructure, with several charging stations located within the City. The City has purchased electric vehicles, hybrid vehicles, and fuel-flexible sedans that can run on any combination of methanol, ethanol and gasoline. Unitrans operates on compressed natural gas (CNG) for the vast majority of miles traveled.

UC Davis has a renowned program in sustainable transportation at the Institute of Transportation Studies (ITS). Additionally, the Pacific Gas and Electric Company (PG&E) promotes alternative fuel

use and hosts a compressed natural gas fueling station at 316 L Street (pump accessed via Second Street).

Increasingly, charging stations for electric and plug-in electric vehicles have been installed with new development.

## **Goods Movement**

Goods movement plays an important role in any community. Davis is not a major freight distribution hub and the manufacturing base is limited. As a result, the need for dedicated infrastructure to support goods movement is limited. However, the community's proximity to several major goods movement corridors including highways, rail corridors, and sea ports is an important component of the Davis transportation system.

**Highways.** Interstate 80 (I-80), which bisects the city, is a major east-west highway connecting the east and west coast. The interstate plays a major role in goods movement connecting the major Bay Area ports and, within Yolo County, the Port of West Sacramento.

Interstate 5 (I-5), approximately seven miles north of Davis, is the major north-south goods movement corridor between southern California, northern California, and beyond to the Pacific Northwest. Several warehouse distribution centers exist along I-5, facilitating goods movement for both intra- and inter-state distribution.

Highway 113 (CA-113), located on the west side of Davis is a major north-south highway connecting I-80 and I-5. It serves as a major connection between Davis and Woodland.

**Freight Rail.** Union Pacific Railroad owns two rail corridors which are used for transporting freight. A north-south alignment bisects the City at the eastern boundary of the Core Area and primarily serves to facilitate freight car transfers by the California Northern Railroad from Woodland to the north, and beyond.

The east-west alignment, which parallels Second Street east of downtown, is considered a "main line" corridor and is heavily used for freight transportation with trains originating primarily from the Port of Oakland. This corridor is used for passenger rail services provided by Amtrak as well as the Capitol Corridor.

# Setting

**Ports.** The Port of West Sacramento facilitates transfer of goods from shipping vessels with destinations to and from the Pacific Ocean. The Port handles a variety of bulk agricultural products, industrial products, and project cargos (large assembled products, typically machinery).

**Truck Routes.** With a limited manufacturing base compared with neighboring communities in Yolo County, dedicated goods movement infrastructure for large vehicles in Davis is limited. Manufactured goods are more often brought into the community by a wide range of delivery vehicles and sizes.

Trucks in excess of three tons of gross vehicle weight are required to travel on designated routes, to the extent feasible, to avoid streets not suited for truck traffic. Allowances are made for trucks making deliveries, such as to construction sites and businesses. Existing designated truck routes are shown in Map 6 (see Complete Streets policy section).



## BACKGROUND TO VISION, GOALS, AND POLICIES

The Transportation Element establishes goals and policies to guide the evolution and development of the Davis transportation system to year 2035. The Element provides a framework that reflects community values regarding transportation planning, infrastructure, and related investments.

**Relationship to Quality of Life.** Because the local transportation system is relied upon by a wide range of users, the Davis community recognizes the importance of a safe, connected, and sustainable multi-modal transportation system that treats all people equitably. While the majority of trips are currently made with motor vehicles, some people do not travel by motor vehicle; therefore the transportation system must ensure that all people, regardless of ability or choice, can access destinations using several travel options. The most effective approach to maintaining and enhancing access while meeting a wide range of community goals including housing, economic development, the environment, and public health will likely involve facilitating increased use of non-motorized and low-carbon transportation and public transportation.

Transportation is linked to Davis' quality of life in many ways. Our local network of interconnected streets, bike paths, and greenbelts facilitates efficient access to services and activities by a wide range of transportation modes including walking, bicycling, public transportation, and motor vehicles. However, the effectiveness of the local transportation system extends beyond merely the street network. Much of what makes our transportation system unique and contributes to Davis' livability is the emphasis— both infrastructural and cultural - on providing access to activities by means other than motor vehicles, particularly bicycling, walking, and public transportation.

**Relationship to Urban Form.** Transportation and urban development patterns are interdependent. The location, intensity, and mix of land uses associated with urban development affects factors that determine whether and how we travel, including: distance, time, cost, safety, comfort, convenience, travel route, traffic congestion, and parking. The Davis urban form consists of a strong downtown serving as the Central Business District (CBD) supported by neighborhood shopping centers, schools, employment centers, and other destinations dispersed throughout town. Given the relatively low density development in Davis, this urban form is efficient from a transportation perspective and minimizes unnecessary intracity travel. Planning for future development should continue to address the need to reduce demand for motor vehicle travel to



# Vision and Goals

the greatest extent feasible, while supporting a more sustainable transportation system for all modes of travel.

The local transportation system is best able to meet the needs of Davis residents when destinations are in close proximity to each other. Access to everyday activities can be facilitated by: ensuring that existing neighborhoods are well-connected to shopping centers, employment centers, and the Core area; ensuring future developments improve connectivity to, within, and between neighborhoods; by encouraging mixed-use developments where appropriate; and by discouraging urban sprawl.

**Relationship to the Local Economy.** Economic development also influences transportation and land use. Private sector economic activity generates community wealth, providing the foundation for financial sustainability that allows the City to provide services such as law enforcement, emergency services, recreation, education, infrastructure, and utilities. As costs for services increase, economic growth allows services to continue at the level residents and visitors expect in Davis. As Davis plans for the future, the amount of economic growth desired by the community, and where future business growth will occur are policy considerations with obvious implications to transportation and land use.

The downtown, in particular, plays a critical role as the economic, cultural, social, and transportation hub in the City. A primary gathering place, the downtown is one of the community's most valued assets. Serving as the community's commercial core, the downtown's health is as dependent on patrons outside Davis who shop, attend events, and do business downtown as much as local residents. Recognizing the relationship between continued economic development and the overall health of the downtown is important to enable building upon past successes. As a result, transportation access, accommodations, and circulation should contribute to creating a supportive environment for economic development in the downtown.

A sustainable transportation infrastructure should serve the downtown, the primary activity center of the city. To accommodate the parking needs of visitors and residents, improve transit connectivity, and reduce circling by automobile drivers searching for a parking space, the downtown should grow within walking distance of key access points including: the transit center/depot; parking structures; and the Memorial Union at UC Davis.





**Relationship to Public Health.** Increased exercise reduces the risk of health ailments such as respiratory disease, cardiovascular disease, hypertension and obesity. Walking or bicycling to school, work, for daily errands, and for recreation increases overall physical activity and contributes to physical health. Land use, site planning, street design, safe routes, and the availability of public transit directly affect the ability of residents to use active modes of transportation.

**Relationship to Costs of Transportation.** The vast majority of households in Davis own at least one automobile. However, residents increasingly live vehicle-free lifestyles either by choice or circumstance. In 2011, 11% of Davis households did not own an automobile, an increase from 6.5% in 2000<sup>1</sup>. The direct cost of automobile ownership including vehicle purchase or lease, license, insurance, registration and vehicle taxes, maintenance and repair, fuel, and paid parking / tolls (where applicable) are estimated to range from \$.67 - \$.95 per mile<sup>2</sup>; a cost of between \$8,900 and \$12,600 per year for Davis households<sup>3</sup>. As driving habits change, demographics shift, and automobile ownership costs remain high, the need to provide options to automobile travel will continue.

**Relationship to Environment.** While automobiles provide unprecedented personal mobility, the environmental and societal externalities are often not well recognized. For example, traffic congestion reduces economic productivity and increases stress. Air pollution caused by vehicle exhaust causes or exacerbates respiratory illnesses. Carbon dioxide emissions from vehicles contribute to global climate change. Vehicle fluid leaks and tire wear contribute to watershed pollution. Construction of highways has separated many neighborhoods from each other. Most societal costs are not directly integrated into the cost of driving. Alternate modes of transportation reduce vehicle emissions, air pollution, and noise, resulting in environmental and public health benefits.

The relationship between transportation and a well-functioning community is important. Past generations invested heavily in automobile travel over other modes (e.g. transit, non-motorized transportation, rail, etc.) through land use policy, transportation policy, and transportation finance, both directly and indirectly. These investments were well intentioned but negatively affected the environment and public health. These effects as well as demographic trends, driving costs, and

<sup>1</sup> 2000 U.S. Census; 2011 American Community Survey.

<sup>2</sup> Victoria Transportation Policy Institute, Transportation Cost and Benefit Analysis: Second Edition, 2007.

<sup>3</sup> Based on 13,286 vehicle miles traveled per household in Davis (SACOG, 2008).



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shifting transportation preferences generate a need for meaningful investment in all modes of transportation. Such investments ensure that mobility and quality of life needs are met for all.

Davis has long recognized these relationships and the Transportation Element advances a community value system supportive of addressing these issues at the local level.

## VISION

*Davis will be a place where people have safe and convenient options for accessing destinations in an environmentally and economically sustainable manner.*

*Note: In addition, this vision for “Transportation” will replace Vision #8, “Neighborhood-Oriented Transportation System” in Section III of the General Plan.*

## GOALS

The goals in this section reflect an ideal future end or state; and an expression of community values:

- A range of viable **Travel Choices**.
- Environmental and economic **Sustainability** in the transportation system.
- A safe and convenient **Complete Street** network that serves everyone.
- **Bicycling** as a healthy, affordable, efficient, and low-impact mode of transportation.

The goals provide the basis for the Davis Transportation Plan (DTP), which evaluates and prioritizes projects and programs in the General Plan and other city-adopted policy documents. Historically, automobile travel has been prioritized over other modes of travel. However, reflective of the Transportation Element Vision and Goals, the DTP gives higher priority to non-motorized (walking and bicycling) and public transportation than to single-occupant vehicles (SOV). This shift in investment strategy offsets decades of underinvestment in non-automobile travel.

### **Travel Choices:**

*The ability for all people to access local destinations conveniently, efficiently, and affordably is a basic value embraced by the Davis community. Facilitating access to destinations by a range of viable transportation options requires a balanced transportation system that accommodates the*



*travel needs of all users, including those who use non-motorized travel and/or public transportation.*

**Goal #1: Davis will provide a comprehensive, integrated, connected transportation system that provides choices between different modes of transportation.**

- **Performance Objective #1.1:** Achieve at least the following mode share distribution for all trips by 2035<sup>4</sup>:
  - 10% of trips by walking<sup>5</sup>
  - 10% of trips by public transportation<sup>6</sup>
  - 30% of trips by bicycle<sup>7</sup>
  
- **Performance Objective #1.2:** Increase use of walking, bicycling, and public transportation to and from the following places<sup>8</sup>:
  - Work
  - Schools (Elementary, Junior High, and Senior High)
  - UC Davis
  - Downtown

### **Sustainability:**

*Due to a high reliance on motor vehicle travel, transportation systems are known to cause or contribute to substantial environmental, public health, and economic impacts including greenhouse gas emissions, poor regional air quality, urban heat island effect, and inactive lifestyles. Furthermore, existing transportation revenue streams contribute to structural deficiencies in transportation finance while raising questions of equity for underrepresented populations and alternative modes of travel. A sustainable transportation system is necessary to ensure that future generations inherit an environment in an equivalent or improved condition to meet current and future environmental and public health challenges without the burden of excessive debt.*

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<sup>4</sup> Performance objective of at least half of all trips by means other than individual vehicles is based on a vision in the Climate Action and Adaptation Plan (CAAP).

<sup>5</sup> Increase based on 9.7% of trips in 2008 (SACOG).

<sup>6</sup> Increase based on 2.5% of public transportation trips in 2008 (SACOG).

<sup>7</sup> Increased based on 23.8% bicycle trips in 2008 (SACOG) and 25% mode share goal adopted in the 2009 Davis Bicycle Plan.

<sup>8</sup> Percentage increase to be determined upon availability of baseline information.



# Vision and Goals

**Goal #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.**

- **Performance Objective #2.1:** Reduce carbon emissions from the transportation sector 61% by 2035<sup>9</sup>.
- **Performance Objective #2.2:** Reduce vehicle miles traveled (VMT) 39% by 2035<sup>10</sup>.
- **Performance Objective #2.3:** Annually increase funding for maintenance and operation needs of the transportation system, until fully funded<sup>11</sup>.

## **Complete Streets:**

*Twentieth century street design emphasized accommodation of efficient motor vehicle travel and circulation, often excluding other users of the transportation system. A transportation system that, where contextually appropriate, accommodates all users of the street equitably will enable comfortable, convenient, and affordable access to destinations by non-motorized and public transportation. The manner in which existing and new local streets are designed is an important consideration for assuring progress toward this end.*

**Goal #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.**

- **Performance Objective #3.1:** Improve quality of service for all users of the transportation system<sup>12</sup>.
- **Performance Objective #3.2:** Reduce the total number of collisions between motor vehicles and bicyclists or pedestrians by 50% by 2035<sup>13</sup>.

<sup>9</sup> 61% = percentage reduction of carbon emissions from transportation compared to 2010. Percentage reduction derived from Davis Climate Action and Adaptation Plan (DCAAP) for transportation to achieve carbon neutrality by 2050: [100% Carbon Reduction by 2050: (2.6% X 15 years) = 61% by 2035]. Refer to DCAAP for existing local carbon inventory from the transportation sector.

<sup>10</sup> 39% determined by SACOG modeling for Davis to achieve 61% carbon reduction from Davis transportation system.

<sup>11</sup> Specific timeframe and/or annual percentages to achieve full funding of transportation operation and maintenance are not proposed due to uncertainty of future funding availability.

<sup>12</sup> Transportation quality of service evaluation system to be established prior to quantifying performance objective.

<sup>13</sup> Compared to 2009-2011 timeframe (176 total reported collisions).



## **Bicycling:**

*Davis is highly regarded nationally and internationally for supporting bicycling. As the recipient of the nation's first Platinum level Bicycle Friendly Community designation by the League of American Bicyclists, Davis has the highest percentage of trips by bicycle and the most extensive bicycle infrastructure per capita in the United States by most accepted metrics. Bicycling is an integral component of Davis' civic identity, developed over many decades through infrastructure investment, land use planning, and community cultivation of a bicycling "ecosystem". Because of the leading role Davis has taken historically, a community priority is extending leadership and innovation in bicycling infrastructure and culture.*

**Goal #4: Davis will strengthen its status as a premier bicycling community in the nation by continuing to encourage bicycling as a healthy, affordable, efficient, and low-impact mode of transportation accessible to riders of all abilities, and by continuously improving the bicycling infrastructure.**

- **Performance Objective #4.1:** Commit a minimum amount of funding for bicycle programming and infrastructure as identified in the "Beyond Platinum – Bicycle Action Plan".

## **IMPLEMENTATION OF TRANSPORTATION POLICIES AND ACTIONS**

The City is committed to making every reasonable effort to achieve the goals and performance objectives and fund the projects and programs identified in the General Plan. However, complete implementation of the policies and actions in this plan would require a commitment of financial resources for capital and continuing costs which may not be available currently or in the future. Allocations of available resources are established in the annual city budget and review of the Capital Improvements Master Plan and the Davis Transportation Plan (DTP).

The City is also committed to providing transportation infrastructure and services in full compliance with both the spirit and the letter of the Americans with Disabilities Act and all other applicable federal and state civil rights laws.



# Transportation and Sustainability



## 1. TRANSPORTATION AND SUSTAINABILITY

**Policy TRANS 1.1 (Goals: 1,2,3,4).** Guide the relationship between land use and transportation in Davis by using the Sacramento Area Council of Governments (SACOG) Blueprint Principles:

- Transportation Choices
- Housing Choices
- Compact Development
- Mixed Land Uses
- Use of Existing Assets
- Natural Resource Protection
- High Quality Design

(See Glossary for detailed definitions of seven Blueprint Principles.)

### Action

- a. Ensure future development in Davis supports SACOG Blueprint Principles, and subsequent infrastructure improvements favorably positions Davis for regional transportation funding.

**Policy TRANS 1.2 (Goals: 1,2,3).** Transportation access, accommodations, and circulation should contribute to creating a supportive environment for economic development in the downtown for both residents and visitors.

**Policy TRANS 1.3 (Goals: 1,2,3,4).** Encourage higher intensity residential, commercial, and mixed-use development near existing activity centers and along corridors well served by non-motorized transportation infrastructure and public transportation (See Activity Centers, Map 2).



# Transportation and Sustainability

*“Activity center” is a mixed use area with a concentration of commercial and other land uses. An activity center typically functions as the node, focus and identity of a neighborhood, community or city and varies in size. An activity center may be the downtown core, a community and neighborhood shopping center, and an area of mixed land uses. Generally, more dense and intense land uses should be closest to an activity center. An activity center is served by, and is connected to, other activity centers by transit. (source: combined from various sources)*

## Standard

- a. Residential and commercial developments and redevelopment projects should achieve transit-supportive densities within ¼-mile of multi-modal corridors. Such densities would consist of ten (10) units per acre or greater, if compatible with neighborhood context.

## Action

- b. Enhance the pedestrian environment within a quarter-mile of existing activity centers.

**Policy TRANS 1.4 (Goals: 1,2,3,4).** Use an evaluation tool for residential development applications outside the Core Area to ensure development supports the four Transportation Goals in this subsection to the greatest extent possible.

**Policy TRANS 1.5 (Goal: 2).** Strive for carbon-neutrality or better from the transportation component of new residential development.

**Policy TRANS 1.6 (Goal: 2).** Reduce carbon emissions from the transportation system in Davis by encouraging the use of non-motorized and low carbon transportation modes.

## Action

- a. Utilize the General Plan Transportation element, Davis Transportation Plan (DTP), and Climate Action and Adaptation Plan (CAAP), as tools to reduce carbon emissions from the transportation system in Davis.

**Policy TRANS 1.7 (Goal: 2).** Promote the use of electric vehicles and other low-polluting vehicles, including Neighborhood Electric Vehicles (NEV).

## Standard

- a. New development shall include infrastructure for electric vehicles consistent with the future growth in the number of electric vehicles.



# Transportation and Sustainability

## Actions

- c. Establish charging stations, preferably employing sustainable energy generation, for electric vehicles in public parking lots in accordance with the future growth in the number of electric vehicles.
- d. Require residential development to pre-install wiring necessary to support electric vehicle charging.
- e. Actively monitor developments in sustainable transportation fuels and work with businesses and government agencies to facilitate infrastructure for sustainable transportation fueling at the earliest possible stage.
- f. Review and update the Davis Alternative Transportation Task Force Final Report (March, 1996).
- g. Develop medium-speed NEV program (35 mph).

**Policy TRANS 1.8 (Goals: 1,2).** Develop and maintain a work trip-reduction program designed to reduce carbon emissions, criteria pollutants, and local traffic congestion.

## Standard

- a. New development areas shall reduce vehicle trips generated by their developments. Developers shall mitigate significant adverse traffic impacts upon existing development to reduce the impacts to less-than-significant levels, unless the city finds that full mitigations are incompatible with the surrounding environment.

## Actions

- b. In partnership with local business organizations, actively coordinate with local businesses of over 100 employees to encourage compliance of the Transportation Systems Management Requirements in the Municipal Code.
- c. Collaborate with the University to ensure that the City and University Transportation Systems Management (TSM) programs are implemented to minimize traffic demand on city streets.
- d. Encourage ridesharing and staggered work hours for all employees in Davis.
- e. Provide incentives to promote ridesharing among Davis residents.





# Transportation and Sustainability

- f. Implement financial and parking incentives to encourage drivers to use alternative transportation, including bicycles, electric vehicles, transit systems and ridesharing.
- g. Encourage existing parking lot owners to allow transit riders and ride sharers to park in their parking lots.

**Policy TRANS 1.9 (Goals: 1,2).** Develop a program with DJUSD to reduce trips to school using motor vehicles.

## Action

- a. Work cooperatively with the Davis Joint Unified School District to develop a transportation and safety management program related to all school sites. Explore as part of this program a trip reduction program (i.e. encourage ridesharing, implement a neighborhood parking program, encourage students to walk or bike, encourage staff to reduce the use of cars, reduce need and desire for students to leave campus at lunch time, etc.).



# Complete Streets



## 2. COMPLETE STREETS

**Policy TRANS 2.1 (Goals: 1,2,3,4).** Provide Complete Streets to meet the needs of drivers, public transportation vehicles and riders, bicyclists, and pedestrians of all ages and abilities in all transportation planning, programming, design, construction, reconstruction, retrofit, operations, and maintenance activities and products. The City shall view all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in Davis, and recognizes bicycle, pedestrian, fixed-route transit, and demand-response para transit modes as integral elements of the transportation system along with motor vehicles.

### Standards

- a. The City of Davis shall have a network of vehicle circulation routes consisting of major arterials, minor arterials, collectors, local streets and cul-de-sacs (See Figure 2). The major street classifications are shown in Map 3. Definitions and widths of each type of street are shown in Table 1. Lane widths are shown in Table 2. Planned lane configurations for selected streets are shown in Map 4.

*Note: The vision, goals and policies in the Transportation element reflect a long-term perspective of the transportation system to 2035. The roadway configurations assumed through 2015 (as shown in standards, tables and maps) are based on existing and anticipated land uses through 2015. The Transportation element does not determine the roadway configurations needed in 2035 because the Land Use element would need to be updated with a consistent long-term time frame.*

- b. Where limited street space exists, priority should be given to non-motorized modes to protect the safety and comfort of these more vulnerable users. Deviations from street widths in Table 2 to favor motor vehicles should be location-specific and result from either constrained right-of-way and/or safety considerations.
- c. Streets, bike paths, bike lanes and trails should conform to the City guidelines, as shown in Tables 1 and 2.



**Figure 1: Complete Street Concepts**



**Existing Conditions**



**Improvement Concept**

# Complete Streets

**Table 1: Street Classifications and Guidelines**

Street Type	Description	# of Lanes	Median	Bike Lanes	ROW Width <sup>1</sup>	Typical Street Width
Major Arterial	A continuous street located to serve large traffic volumes and designed to minimize access to abutting property via driveways, alleys and business entrances. Streets feeding into major arterials should be spaced at one-quarter-mile intervals. Major arterials should not penetrate neighborhoods and should be planned so as to eliminate through traffic in residential neighborhoods and adjacent to schools.	4	✓	✓	102'-146'	78'
Minor Arterial	A continuous street located to provide a direct route between, but not through, separate neighborhoods. Minor arterials should be planned to eliminate through traffic in residential neighborhoods and adjacent to schools.	2	Varies	✓	75'	51-56'
Collector Street	A noncontinuous street located to collect traffic from local streets and distribute it to minor and major arterials. The difference, other than size, between a collector and an arterial is that a collector penetrates a neighborhood, while an arterial does not.	2		✓	62'	52'
Modified Local Street	Same as a local street, but with additional right-of-way. Typically used for higher volume local streets, particularly with high bicycle volumes.	2			50'	40'
Local Street	A street, other than a collector or arterial, providing access to abutting property and designed not to accommodate or encourage through trips.	2			44'	34'
Cul-de-sac	A local street terminating in a turning area and generally not exceeding 400 feet in length.	2			38'	28'

<sup>1</sup>Includes sidewalks, landscape strips, bike paths, any buffers, and/or utility corridors, where applicable



**Table 2: Geometric Cross Section Guidelines**

Item	Typical Width	Street Classification
Moving Lane	Arterials: 12'. May be reduced to 11' to accommodate up to 7' each for parking and for a bike lane.	
Moving Lane	11'	Collector with bike lanes
Two-Way Left-Turn Lane	10'	Minor Arterials
Parking	7'	All Streets
Center Median	14'	Major Arterials and some Minor Arterials
Bike Lane	7'	Arterial and Collectors (add 1 foot next to curb lane). Negotiable with application of buffered bike lane
Bike Path	10'	Arterial and Collector
Curb Lane	Add 2' to minimum lane width ("shy distance")	

- d. The following Levels of Service (LOS) are acceptable for automobiles for major intersections (see Glossary for definition of “Major Intersections”):
- ‘D’ during non-peak traffic hours.
  - ‘E’ during peak traffic hours.
  - ‘F’ during peak traffic hours in the Core Area and Richards Boulevard/Olive Drive area.
  - ‘F’ during peak traffic hours in other areas if approved by City Council.
- e. In each direction, Davis streets shall have no more than two through automobile lanes plus a single left-hand turning lane, even if this requirement reduces level of service. Additional turning lanes may be added for safety or design considerations.
- f. Existing bike lanes shall not be removed to add through traffic lanes.
- g. Class I bike paths and II bicycle lanes shall be provided along all collector and arterial streets except where physically infeasible.
- h. The City shall require right-of-way necessary for the number of lanes projected for each existing and planned arterial street shown in Table 3 (Planned Lane Configurations of



# Complete Streets

Selected Street Segments) as a condition of development approval for new developments and substantial changes to existing structures.

Prior to implementing the planned street widenings shown in Table 3 and Map 1 in response to a development proposal, the City shall first consider the feasibility and effectiveness of other measures to improve the Level of Service (LOS) to City standards. Such measures could include but would not be limited to Transportation Demand Management (TDM) measures such as requiring businesses to: stagger their hours of operation or employees to a non-peak time; charge for parking; and encourage carpools.

The City would implement the street widening only when the aforementioned measures are determined by City Council to be infeasible and ineffective to improve the LOS to City standards.

**Table 3: Planned Lane Configurations of Selected Street Segments**

Roadway	Segment	Existing Lanes in 2011	Planned Lanes in 2015
1. Covell Blvd	Baywood to Alhambra	4+	4+
2. Mace Blvd	Alhambra to Chiles	4+	4+
3. F Street	First to Seventh	2	2
4. Pole Line Rd	Overcrossing	2+	2+
5. Pole Line Rd	Covell to N City Limits	2+	4+ <sup>3,6</sup>
6. B Street	First to Fifth	2+	2+
7. Cowell Blvd	I-80 eastbound ramp to Drummond	2+	4+
8. Cowell Blvd	Pole Line to Drummond	2	2+
9. Second Street	L to Fermi	2	2
10. Covell Blvd	Sycamore to Shasta	2 <sup>1</sup>	4+
11. Covell Blvd	Shasta to West City Limits	4+	4+
12. Pole Line Rd	Fifth to Covell	2+	2+ <sup>3,4,6</sup>
13. Chiles Rd	Ensenada to Mace	2+	4
14. Fifth Street	Cantrill to Pena	2+	2+
15. Eighth Street	F Street to J Street	2	2
16. Second Street	Fermi to Mace	4	4+
17. Covell/Mace	Alhambra to Alhambra	3+	3+
18. Fifth Street	B Street to L Street	4	2+ <sup>7</sup>
19. Anderson Rd	Villanova to Covell	4	2+ <sup>8</sup>

Notes in table (see 2001 General Plan for original footnotes):

1. With short turn lanes only at selected intersections.
2. Corridor plan and mitigations apply. It is the clear intent of this plan not to re-stripe Pole Line Road to four-lanes although re-striping could be evaluated in the future.



3. With Corridor Plan and mitigations.
4. Four lanes north of Claremont acceptable for intersection capacity and operations.
5. With traffic control at 2<sup>nd</sup> and B Streets
6. Use Corridor Plan process to identify location of turn lanes for increased capacity at intersections. The final configurations for the segment of Pole Line Road from Covell Boulevard to North City Limits shown in this table as segment #5 and in Map 4, 2015 Land Configuration, shall be influenced by planning decisions regarding the 386-acre land site northwest of the Covell Boulevard / Pole Line Road intersection (known as the “Covell Center” project site) and by County Road 102 configurations. The lane configuration of 4+ shown in this table and in Map 4 may need to be only 2+ lanes.
7. Subject to Fifth Street reconfiguration plan and improvements.
8. Four lanes south of Covell Boulevard acceptable for intersection capacity and operations.

General notes:

- “2” and “4” indicate the planned number of through lanes and “+” indicates additional turn lanes at intersections.
- The City shall give strong consideration to the factors of existing trees and bicycle / pedestrian access prior to street widenings.

## Actions

- i. Establish a multi-modal Level of Service (LOS) standard to address the needs of all users of the street, including bicyclists and pedestrians, at intersections.
- j. Consistent with the Core Area Specific Plan (CASP), provide pedestrian amenities in the downtown such as but not limited to signage/wayfinding, street furniture, outdoor dining, crosswalks, drinking fountains, street lighting, street trees, and gathering areas.
- k. Work with citizens and technical experts to review the street width and “Greenstreet” standards to reflect pedestrian and bicycle friendly policies in this chapter, including but not limited to the following:
  - Design/redesign residential and collector streets to slow vehicular traffic to 25 mph or less.
  - Design travel lanes to prioritize pedestrians and bicycles, including provisions for a marked “buffer space” to further separate bicycles from both moving and parked motor vehicles, where right-of-way allows.
  - Eliminate intersection standards that allow high speed right turns for motor vehicles.
  - Adjust intersection signal operations to smooth traffic flow, reduce automobile idle time, and to adequately service bicycles and pedestrians by giving priority and to maintain momentum.
- l. Preserve rights-of-way for future transportation use.





# Complete Streets

m. Ensure transit stops have adequate curb space for loading and unloading passengers.

**Policy TRANS 2.2 (Goals: 1,2,3,4).** Implement state-of-the-art street design solutions to improve bicycle/pedestrian access, comfort, and safety that may include:

- Bicycle boxes at intersections
- Cycletracks
- Shared lane markings (sharrows)
- Contraflow bicycle lanes
- Improved bicycle detection at intersections
- Two-stage turn queue boxes
- Colored bicycle lanes
- Bicycle route wayfinding

**Policy TRANS 2.3 (Goals: 2,3).** Apply best practices in sustainability to new streets and redesigns of existing streets/corridors.

## Standards

a. New and redesigned streets shall consider space for street trees and best practices for sustainable street design. This may include design concepts such as low impact design (LID) for stormwater management, shade trees, and energy efficient lighting.

**Policy TRANS 2.4 (Goal: 3).** As part of the initial project review for any new project, a project-specific traffic study may be required. Studies shall identify impacted transportation modes and recommend mitigation measures designed to reduce these impacts to acceptable levels.

**Policy TRANS 2.5 (Goals: 1,2,3,4).** Create a network of street and bicycle facilities that provides for multiple routes between various origins and destinations.





## Standards

- a. Davis streets shall be connected with multiple route options for bike and pedestrian travel in new and developed areas. Cul-de-sacs are allowed provided they connect to bicycle/pedestrian corridors. Figure 2 depicts a conceptual diagram of desired street connectivity concepts.

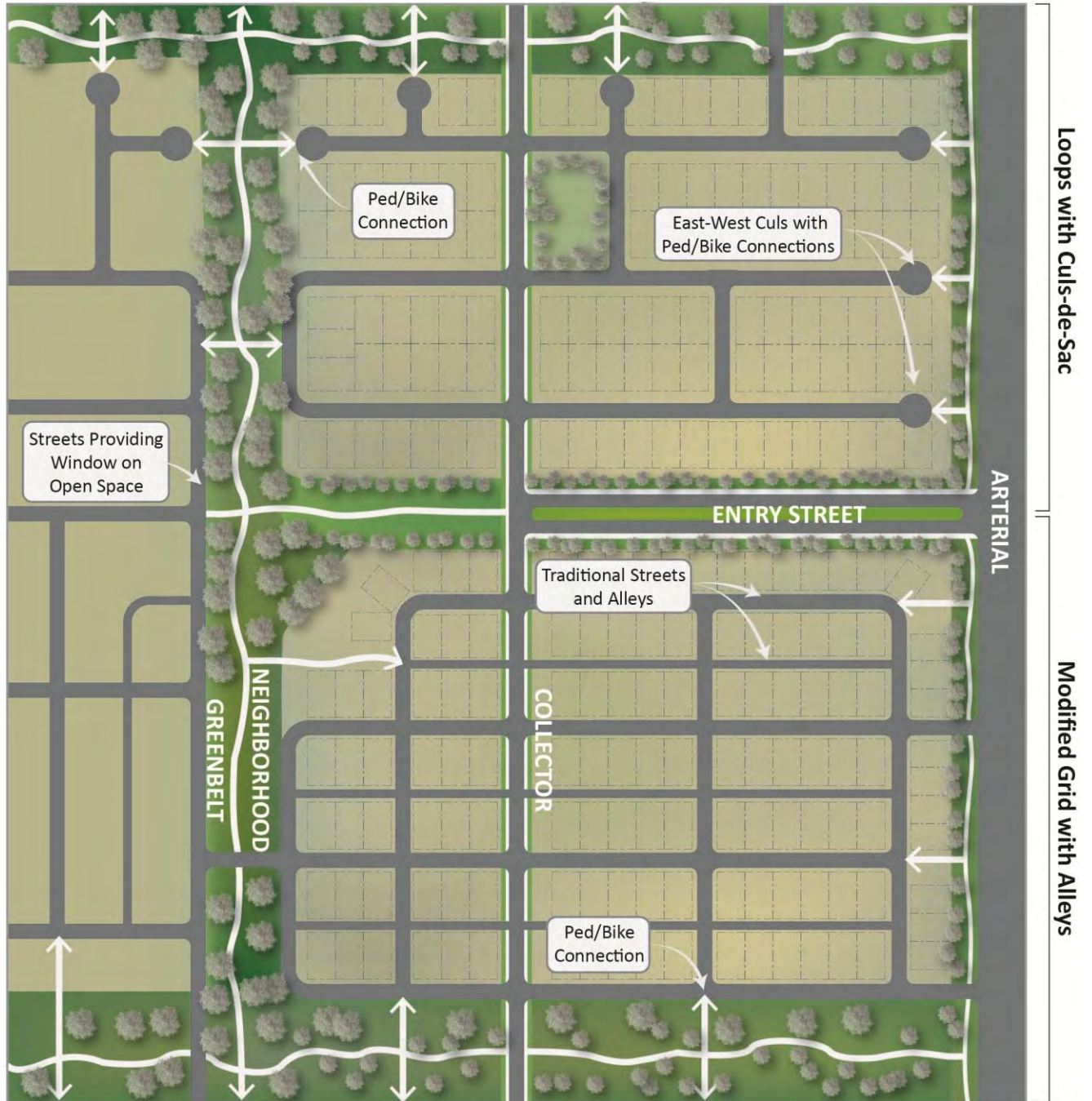
## Actions

- b. Develop a network of bicycle boulevards (see glossary) on relatively low-volume and low-speed “shared” streets that are attractive, convenient, comfortable, and welcoming to cyclists of all ages and skill levels. Facility improvements on such bicycle boulevards may include but are not limited to traffic calming, diversion or discouragement of non-local vehicle traffic, signage, pavement markings, and intersection crossing improvements. An example of a potential bicycle boulevard is the east-west route connecting Loyola Drive, Drexel Drive, Fourteenth Street, and Villanova Drive.
- c. Develop a network of secondary bicycle connectors (see glossary) through low-speed neighborhood streets. Such routes could include signage, striping, and traffic calming measures as necessary.
- d. Provide convenient bike, pedestrian, and public transportation access through areas where cars are or may be prohibited, where applicable.



# Complete Streets

Figure 2: Street Connectivity Concepts



**Policy TRANS 2.6 (Goals: 1,3,4).** Maintain existing bicycle facilities in good repair.

## Actions

- a. Consider measures to minimize debris and yard waste interfering with bicycle lanes. Measures could include an ordinance and increased education.
- b. To promote safety and convenience, consider measures that balance the delivery needs in the downtown with the safety concerns of bicycles and pedestrians.

**Policy TRANS 2.7 (Goal: 2).** Minimize impacts of vehicle traffic on local streets to maintain or enhance livability of the neighborhoods. Consider traffic calming measures along collector and minor arterial streets, where appropriate and feasible, to slow speeds. Examples of assorted traffic calming measures are shown in Figure 3.

## Actions

- a. Develop a comprehensive traffic calming plan and program which are oriented toward residential streets and which are not necessarily part of the City's corridor plan program.
  - Develop guidelines for traffic calming strategies that include, but are not limited to, modified intersection designs, narrow streets, tight turning radii, sidewalk bulb outs, parking bays, textured paving, and parkways between sidewalks and streets.
  - Review and update the City's existing protocols for considering and prioritizing traffic calming measures, including requests from citizens.
  - Implement traffic calming measures where feasible to minimize the impact of the use of residential streets by vehicular traffic. Conceptual diagrams of various traffic calming measures are shown in Figure 3. Roundabouts, which are traffic control devices, are encouraged at intersections where vehicle volumes permit.

**Policy TRANS 2.8 (Goal: 2).** Improve the function, safety, and appearance of selected corridors as illustrated. Corridor plan improvement concepts are shown in Figure 4.





# Complete Streets

Figure 3: Traffic Calming Measures

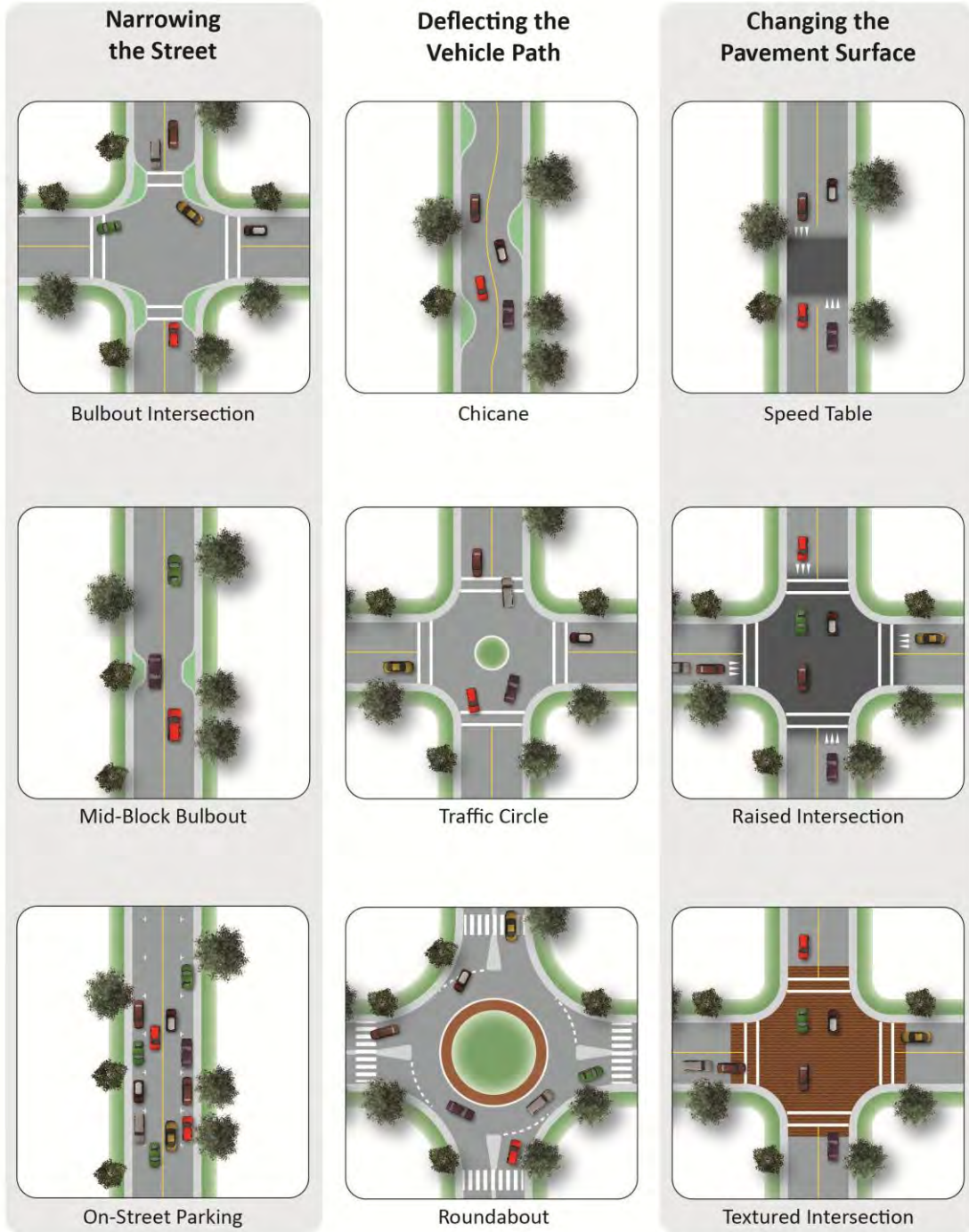
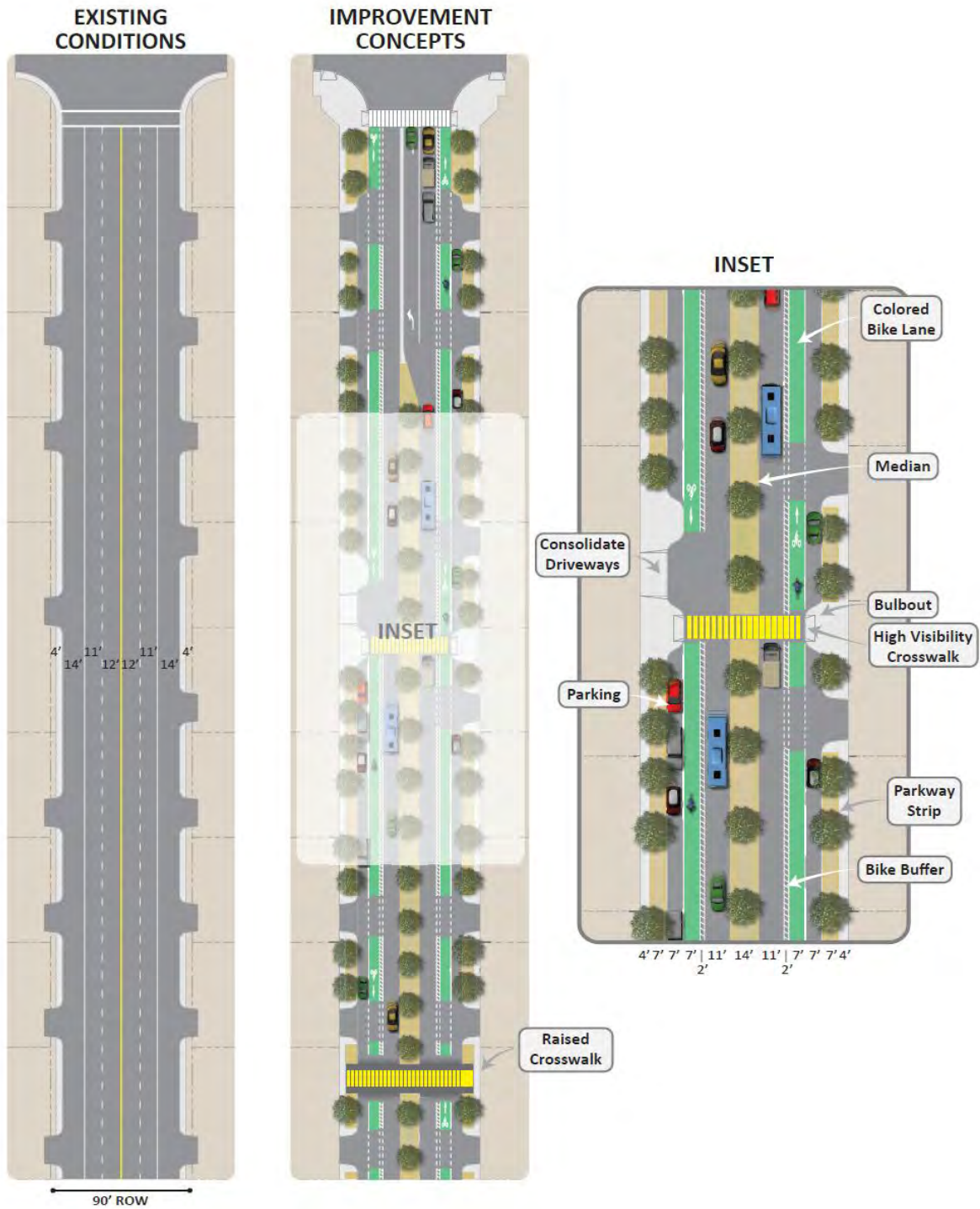


Figure 4: Corridor Plan Improvement Concepts



# Complete Streets

## Actions

- a. Develop "corridor plans" for selected streets which warrant special treatment because of existing impact problems or operational issues. Corridor plans should take into consideration adjacent land uses and result in streets that are both functional and aesthetic. The plans should utilize innovative means of slowing traffic, where appropriate, and provide safe access for pedestrians and bicyclists. Mitigation shall be incorporated to protect residences and sensitive receptors from noise, air pollution and other traffic related impacts. The corridor plans may deviate from the standards established in the General Plan, if deviations improve the livability of the area.

The streets to consider for participation in this program are listed below. The identification and prioritization of corridors and/or segments will be established through the DTP.

1. Anderson Road – Russell Boulevard to Covell Boulevard
2. Chiles Road – Drummond Avenue to east city limit
3. Covell Boulevard – Pole Line Road to F Street
4. Covell Boulevard – F Street to State Route 113
5. Covell Boulevard – State Route 113 to west city limit
6. Cowell Boulevard – I-80 to Drummond Avenue
7. Eighth Street – B Street to Pole Line Road
8. E Street – First Street to Third Street
9. F Street – Fifth Street to Covell Boulevard
10. Fifth Street - B Street to L Street and  
Russell Boulevard – A Street to B Street
11. Fifth Street – L Street to Cantrill Drive
12. First Street and B Street – Richards Boulevard to Russell Boulevard
13. L Street – Second Street to Covell Boulevard
14. Lillard Drive – Cowell Boulevard to Drummond Avenue
15. Loyola Drive – Pole Line Road to Mace Ranch
16. Mace Boulevard – Harper Junior High to I-80
17. Mace Boulevard – I-80 to south city limit
18. Olive Drive – West end to east end
19. Pole Line Road – Covell Boulevard to north city limit
20. Pole Line Road – I-80 to Covell Boulevard (upgrades)
21. Richards Boulevard – First Street to I-80
22. Russell Boulevard – A Street to State Route 113
23. Russell Boulevard – State Route 113 to west city limit

\*The above list was derived from the 2001 General Plan and supplemented with corridors considered in need of design enhancements. Such needs may be defined as improving bicycle & pedestrian circulation, redesigning unnecessarily wide travelways,



reducing vehicular speeding, safety concerns, noise impacts on residences, and improving parcel/street interface conflicts.

- b. Beautify the entrances to the City, in addition to Interstate 80 and Highway 113 corridor plan improvements. Such entrances include Covell Boulevard, Mace Boulevard, Olive Drive, Pole Line Road, Richards Boulevard and Russell Boulevard.
- c. Work with Caltrans, other affected agencies and developers to implement the Interstate 80/Highway 113 Corridor Plan through public and private projects in these corridors. The following policies in the plan shall be considered to achieve a high level of aesthetic quality and to develop amenities within the corridors, including a green backdrop with views to businesses adjacent to the freeway corridors.
  - Locate public art in areas of high visibility and works of art in new freeway structures and corridor buildings.
  - Develop freeway structures and overpass landscaping as aesthetic focal points.
  - Design architectural elements to complement the corridor experience, define edges, and enhance vistas. Signage shall be of high aesthetic quality and shall avoid visual clutter.
  - Require buildings and streets outside of the highway rights-of-way to have generous landscaped areas.
  - Maintain view sheds to important regional views.
  - Develop new landmarks and vistas within the corridors.
  - Preserve historic tree stands as well as individual trees to the greatest extent possible.
  - Maintain cultural resources when making improvements along the corridors (e.g. historically significant structures, landmark trees, orchards, water towers, etc.).
  - Utilize drought tolerant vegetation.

**Policy TRANS 2.9 (Goals: 1,2,4).** Enhance access to downtown, including from south Davis and I-80 by improving circulation and connectivity for all modes through and across the Richards Boulevard/First Street corridor.

## Actions

- a. Conduct a study to improve access for residents and visitors to the downtown in a safe, efficient, and equitable manner.
- b. Create and implement a vehicular wayfinding program to direct those who work and visit in Davis to downtown from the major entrances from I-80 and Highway 113.





# Complete Streets

- c. Implement various Transportation Demand Management measures to reduce demand at the Richards Boulevard underpass to the extent feasible, so that collectively these measures may reduce congestion along the Richards Boulevard/First Street corridor. These measures may include traffic control and diversion components, alternate routes, bicycle safety and circulation components, emergency access and drainage improvement measures, and beautification components (See Action TRANS 2.8b regarding the beautification of City entrances.)
- d. Provide a grade-separated crossing between the Olive Drive neighborhood and the Amtrak station.
- e. Work with Caltrans to determine the feasibility of converting the Richards Boulevard / I-80 interchange to a configuration that improves safety for cars, bicycles, and pedestrians and reduces congestion.

**Policy TRANS 2.10 (Goal: 3).** Prohibit through truck traffic on streets other than identified truck routes shown in Map 6.

## Actions

- a. Direct through truck traffic away from residential areas and other sensitive land uses. Study alternate truck routing to reduce truck traffic on city streets.
- b. Improve signs indicating truck routes.
- c. Provide a means to report truck route violations.
- d. Consider using County roads to divert truck traffic from the intersection of Covell Boulevard and Pole Line Road.







## 3. PUBLIC TRANSPORTATION

**Policy TRANS 3.1 (Goals: 1,2).** Facilitate the provision of convenient, reliable, safe, and attractive fixed route, commuter, and demand responsive public transportation that meets the needs of the Davis community, including exploring innovative methods to meet specialized transportation needs.

### Standard

- a. Provide convenient public transportation service within 1/8 mile of “activity centers” and within ¼ mile of medium - high density housing. Particular emphasis shall be given to activity centers frequently used by high numbers of persons dependent on public transportation. (See Public Transportation Routes, Map 7).

*See the separate General Plan policy interpretation document titled "Locational Guidelines for Residential Densities and Senior Housing".*

### Actions

- b. Implement the Davis portion of applicable local, county and regional transit plans.
- c. Improve transit line coverage, frequency and seasonal regularity throughout the city and to adjacent cities, with particular emphasis on service to the core, employment centers, social service facilities, schools and institutions.
- d. Continue to provide para transit services. Cooperate with volunteer efforts to provide these services.
- e. Market the availability of para transit services.
- f. Survey residents to understand obstacles to riding transit.
- g. Expand, improve, and publicize the multi-modal transportation center at the train depot in the Core Area.
- h. Evaluate the potential for an urban circulator in Davis if it appears they may have merit given the demographics required for a successful system.
- i. Improve transit connectivity and/or service between the Olive Drive neighborhood and other neighborhoods, including the Core Area.
- j. Study the feasibility of implementing a fare-free local transit system.



# Public Transportation

- k. Develop and maintain a travel training program oriented towards seniors and those with disabilities
- l. Improve access to neighborhood transit stops and related amenities including but not limited to path connections, safety improvements, and attractive shelters, where warranted.
- m. Improve bus shelters and related amenities including but not limited to protection from weather, comfortable seating, lighting and other safety improvements, passenger information, bicycle racks, benches, trash receptacles, and path connections.
- n. Provide bus information at transit stops including but not limited to bus schedules and maps.
- o. Include transit information in promotional materials for community events hosted by, or in partnership with, the City of Davis.
- p. Implement state-of-the-art traveler information systems including but not limited to bus schedules, real-time information at bus locations, and other alternative travel options.
- q. Work proactively to coordinate and cross-promote transit service between the Yolo County Transportation District, Unitrans, Davis Community Transit, and other transit service providers.
- r. Study installing transit signal priority systems at selected intersections and corridors to extend green time for approaching buses.
- s. Support continuation and expansion of the federal subsidies needed by all local transit systems.
- t. Ensure that the existing railroad rights-of-way are maintained for transportation purposes.

**Policy TRANS 3.2 (Goals: 1,2).** Make transit more available and accessible to secondary school-aged youth.

## Actions

- a. Facilitate better coordination between local transit providers and the school district to optimize transit routes and services for youths.
- b. Continue to support and inform the public about the availability of public transportation services to and between the junior and senior high school campuses.



- c. Establish methods and procedures to obtain input from youth to help plan routes and schedules that better serve the city youth.

**Policy TRANS 3.3 (Goals: 1,2).** Require new development to be designed to maximize transit potential.

*See the separate General Plan policy interpretation document titled "Locational Guidelines for Residential Densities and Senior Housing".*

## Standards

- a. All arterial and collector streets shall be designed to accommodate full-size transit buses.
- b. New developments shall incorporate transit-supportive design strategies and provide safe and direct access to bus stops for pedestrians and bicyclists.
- c. New developments adjacent to arterial streets or transit routes shall provide safe, accessible, and attractive bus loading zones, shelters and other amenities.

## Actions

- d. Identify conflicts between modes at existing bus stops and make improvements to mitigate such conflicts. Design new bus stops to avoid conflicts between modes.
- e. As part of the development review process, the City shall submit development projects to transit providers for review.
- f. Encourage transit fleet conversions to include bike carrying racks on all vehicles.



# Bicycling and Walking



## 4. BICYCLING AND WALKING

Note: The bicycling component of this policy section primarily focuses on dedicated bicycling infrastructure such as off-street bike paths. Policies relating to bicycling in the public right of way (streets) are located in the Complete Streets policy section.

**Policy TRANS 4.1 (Goals: 1,2,3,4).** Devote sufficient resources to implement and update the Bicycle Plan.

### Actions

- a. Update the Bicycle Plan as required by regional, state, and federal agencies and/or prior to each update of the DTP.
- b. Maintain a commission to oversee implementation of the Bicycle Plan.
- c. Maintain adequate staffing to administer implementation of the Bicycle Plan.

**Policy TRANS 4.2 (Goals: 1,2,3,4).** Develop a continuous trails and bikeway network for both recreation and transportation that serves the Core, neighborhoods, neighborhood shopping centers, employment centers, schools and other institutions; minimize conflicts between pedestrians, bicyclists, equestrians, and automobiles; and minimize impacts on wildlife. Greenbelts and separated bike paths on arterials should serve as the backbone of much of this network.

Map 8, Bicycle Facilities, shows the City's existing bicycle infrastructure. Map 9 shows the Davis Bike Loop which is 12 miles in length and utilizes on-street bicycle lanes, off-street paths, and routes through the city and the UC Davis campus.

*See the separate General Plan policy interpretation document titled "Major Arterial Landscaping, Noise Attenuation Design and Greenstreets".*

Map 10, Primary Bikeways, are designated bicycling thoroughfares that connect neighborhoods and/or activity centers with supportive infrastructure enhancements. Primary Bikeways are determined by any combination of volume of users, level of service, convenience, comfort, safety, and travel distance.



## Actions

- a. Enhance the safety, accessibility and coverage of the existing bicycle network, especially in the vicinity of UC Davis, schools and recreation areas.
- b. Work with the University to improve campus-city gateways and connectivity including the open space network. Implement documents/plans that improve connections between the city and campus.
- c. Work to improve safety where concerns exist with bicycle paths intersecting streets without traffic control devices.
- d. Improve signage and/or cautionary signals on roadways marking bicycle and pedestrian crossings.
- e. Establish guidelines for circumstances which warrant bike paths (in addition to on-street bike lanes) along arterial streets.
- f. Develop standards to mitigate impacts of bicycle facilities on sensitive land uses such as wildlife habitat.

**Policy TRANS 4.3 (Goals: 1,2,3,4).** Continue to build transportation improvements specifically targeted at bicycles. Refer to Bicycle Plan and Transportation Implementation Plan for list of bicycle-related projects.

**Policy TRANS 4.4 (Goals: 1,2,3,4).** Provide pedestrian and bicycle amenities.

## Action

- a. Improve destination signage throughout the city on bikeways.
- b. Install public facilities to serve bicyclists and pedestrians, such as water fountains and attractive, secure and accessible bike parking.
- c. Establish a bicycle sharing program focused initially around the train station and UC Davis campus.

# Bicycling and Walking

**Policy TRANS 4.5 (Goals: 1,2,3,4).** Establish and implement bicycle parking standards for new developments and significant redevelopment.

**Policy TRANS 4.6 (Goals: 1,2,3,4).** Provide safe and convenient pedestrian access to all areas of the city.

## Actions

- a. Create by 2016 and implement a Pedestrian Plan to improve connectivity for pedestrians, including the disabled.
- b. Implement an on-going program to identify and eliminate hazardous conditions to pedestrians and conflicts between pedestrians, cyclists, and other transportation modes.
- c. Maintain and repair sidewalks to make them as safe as possible for pedestrians.

**Policy TRANS 4.7 (Goal: 4).** Develop a system of trails around the edge of the city and within the city for recreational use and to allow pedestrians and bicyclists to reach open space and natural areas.

## Standards

- a. The City recognizes that some portions of a peripheral loop trail around the edge of the city already exist, and should take advantage of opportunities for further acquisition and construction when presented.
- b. Trails should be developed in roadway rights-of-way wherever possible to minimize conflicts with surrounding rural landowners, but should be separated from the roadway itself by a planting strip.
- c. Tree planting between roads and roadside trails is encouraged, but should not interfere with roadway or trail visibility.

## Actions

- d. Develop destination-oriented trails.



- e. Work with the counties, other cities and the general public to minimize conflicts with land uses such as agriculture and wildlife habitat when developing a trails network.

**Policy TRANS 4.8 (Goals: 1,2,4).** Develop bicycle and pedestrian education programs to increase bicycling and walking as viable and attractive alternatives to cars.

## Actions

- a. Fund, staff and conduct bicycle and pedestrian education programs to increase bicycling and walking.
- b. Maintain and expand the City's outreach program and host events to: promote the use of bicycles as a viable and attractive alternative to cars; improve bicycle safety, etiquette, and theft avoidance; and raise awareness of the dangers of riding bicycles while intoxicated.
- c. Hold an annual forum to educate the public on the facets and benefits of the bicycle and pedestrian program, and solicit input on possible improvements to the program. Maintain an interactive and up-to-date website on the bicycle program.
- d. Work with UC Davis officials to develop a required bicycle safety education program.

**Policy TRANS 4.9 (Goals: 1,3,4).** Improve intercity bicycle connectivity with Class I and Class II bicycle facilities between Davis and neighboring communities in Yolo County and Solano County.

## Actions

- a. Work with neighboring communities including City of Woodland, City of Winters, City of Dixon, City of Vacaville, Yolo County, and Solano County to complete an off-street bicycle path.
- b. Work with City of West Sacramento to improve bicycle connectivity to Sacramento.

# Bicycling and Walking

**Policy TRANS 4.10 (Goals: 1,3,4).** Maintain existing bicycle paths in good repair.

## Actions

- a. Provide adequate funding for bicycle path maintenance.

**Policy TRANS 4.11 (Goals: 1,2,3,4).** Work with schools and community groups to encourage safety and convenience for students to bicycle and walk to school.

## Actions

- a. Work with DJUSD to encourage safe and convenient bicycling and walking for students in consultation with City Commissions, advocacy groups, and neighborhood committees, as appropriate.
- b. Work with DJUSD to complete an annual school commute survey of their students at each school to identify the major routes and modes of travel and the greatest safety hazards (e.g., street crossings, underpasses, drop-off areas).
- c. Work with DJUSD and utilize City commissions, where appropriate, when designing new schools, modifying attendance boundaries or making other changes that affect student trip patterns.
- d. Request that DJUSD maintain active membership in the Yolo Transportation Management Association (TMA).
- e. Work with DJUSD to improve travel safety and traffic mitigation, especially related to student commutes and arrival/departure times at school sites.
- f. Work with DJUSD to ensure adequate, secure bicycle parking facilities are provided on all campuses.







## 5. PARKING MANAGEMENT (Non-bicycle parking)

**Policy TRANS 5.1 (Goals: 1,2).** Use parking management techniques to efficiently manage motor vehicle parking supply and promote sustainability.

### Standard

- a. Developments which incorporate SACOG Blueprint Principles or include shared parking beyond routine requirements shall have reduced parking requirements.

### Actions

- b. Conduct and implement a comprehensive downtown parking study and strategy. The strategy shall maximize the efficiency of the existing parking supply while considering the overall objectives of the downtown.
- c. Review city parking standards for residential and non-residential uses, to recognize the utilization of transit, low-carbon vehicles, other modes, and shared parking opportunities. Consider parking ratio maximums for development and redevelopment to avoid excessive parking.
- d. Coordinate parking management with UC Davis to ensure parking demand generated by the campus does not adversely affect adjacent neighborhoods and the downtown. In addition, explore shared parking opportunities with UC Davis.

**Policy TRANS 5.2 (Goals: 1,2,3,4).** Existing and future off-street parking lots in development should contribute to the quality of the urban environment and support the goals of this chapter to the greatest extent possible.

### Action

- a. Establish off-street parking design guidelines to provide consideration for:
  - Pedestrian safety and connectivity
  - Low Impact Development (LID) storm water drainage
  - Installation of photovoltaic arrays
  - Conversion of automobile parking to bicycle parking
  - Parking lot shading requirements and enforcement
  - Parking lot aesthetics (pedestrian/bicycle amenities, lighting, landscaping, etc.)



# Administration



## 6. ADMINISTRATION

**Policy TRANS 6.1 (Goals: 1,2,3,4).** Create a City government structure regarding transportation that addresses all modes in a balanced, integrated fashion.

### Action

- a. Restructure City department responsibilities regarding transportation so that all travel modes receive equal consideration.

**Policy TRANS 6.2 (Goals: 1,2,3,4).** Gather in-depth quantitative and qualitative information on the travel behavior of Davis residents to provide a reliable empirical foundation to plan solutions to transportation-related problems, and to monitor the effectiveness of transportation programs and policies and their effects on residents' mobility.

### Standards

- a. Predictions of traffic impacts of new development shall be based on traffic trends observed over the previous three to five years.
- b. Bicycle and pedestrian flow, air pollution, vehicle fuel consumption, and collision data shall be considered when analyzing and setting traffic lights and designing transportation systems.

### Action

- c. Gather comprehensive travel data on a regular basis.

**Policy TRANS 6.3 (Goal: 1).** Address Davis' transportation needs as a major regional destination.

### Actions

- a. Regularly coordinate with Sacramento Area Council of Governments (SACOG) to ensure Davis transportation needs and priorities are appropriately considered.
- b. Coordinate with Yolo County, Solano County, and UC Davis to improve multi-modal access and connectivity between major intercity destinations.



- c. Support planned regional rail improvements along the Capitol Corridor and freight realignment in Yolo County that removes freight rail from F Street.
- d. Coordinate with YoloBus, SACOG, UC Davis, and other relevant entities to provide direct public transportation service from Davis to Sacramento International Airport.
- e. Coordinate with Caltrans regarding highway corridor planning for segments that are within or may affect those within the Davis city limits related to:
  - Highway lane widenings
  - High Occupancy Vehicle (HOV) lanes
  - High Occupancy Toll (HOT) lanes
  - Interchange improvements or additions
  - Bicycle connectivity
  - Vegetation/landscaping and visibility of commercial uses

**Policy TRANS 6.4 (Goal: 2).** Provide sufficient funding to construct and maintain the transportation facilities needed to achieve the city’s transportation goals.

## Actions

- a. Assess fees on all new development for all transportation modes to ensure that new development bears its fair share of the costs for new and expanded facilities.
- b. Develop new funding sources for maintenance of roadway, pedestrian, and bikeway facilities, and public transportation.
- c. Investigate additional sources of funding and support the development of a stable, dedicated funding source for all modes to provide continuing maintenance, operation, and management of the city’s transportation network.
- d. Consider use of pricing (e.g. increasing parking costs), where appropriate, to maximize resources that can be used to fund new transportation facilities including roads, streetscape enhancements, and expanded transit service.



# Relationship of Goals and Policies

## SUMMARY TABLE OF RELATIONSHIP OF GOALS AND POLICIES

<i>Policy Section 1: Transportation and Sustainability</i>				
<i>Policy</i>	<b>Goal 1: Travel Choices</b>	<b>Goal 2: Sustainability</b>	<b>Goal 3: Complete Streets</b>	<b>Goal 4: Bicycling</b>
1.1	✓	✓	✓	✓
1.2	✓	✓	✓	
1.3	✓	✓	✓	✓
1.4	✓	✓	✓	✓
1.5		✓		
1.6		✓		
1.7	✓	✓		
1.8	✓	✓		
1.9	✓	✓		
<i>Policy Section 2: Complete Streets</i>				
<i>Policy</i>	<b>Goal 1: Travel Choices</b>	<b>Goal 2: Sustainability</b>	<b>Goal 3: Complete Streets</b>	<b>Goal 4: Bicycling</b>
2.1	✓	✓	✓	✓
2.2	✓	✓	✓	✓
2.3		✓	✓	
2.4			✓	
2.5	✓	✓	✓	✓
2.6	✓		✓	✓
2.7		✓		
2.8		✓		
2.9	✓	✓		✓
2.10			✓	

# Relationship of Goals and Policies

## SUMMARY TABLE OF RELATIONSHIP OF GOALS AND POLICIES

<i>Policy Section 4: Bicycling and Walking</i>				
<i>Policy</i>	<b>Goal 1: Travel Choices</b>	<b>Goal 2: Sustainability</b>	<b>Goal 3: Complete Streets</b>	<b>Goal 4: Bicycling</b>
4.1	✓	✓	✓	✓
4.2	✓	✓	✓	✓
4.3	✓	✓	✓	✓
4.4	✓	✓	✓	✓
4.5	✓	✓	✓	✓
4.6	✓	✓	✓	✓
4.7				✓
4.8	✓	✓		✓
4.9	✓		✓	✓
4.10	✓		✓	✓
4.11	✓	✓	✓	✓
<i>Policy Section 5: Parking Management</i>				
<i>Policy</i>	<b>Goal 1: Travel Choices</b>	<b>Goal 2: Sustainability</b>	<b>Goal 3: Complete Streets</b>	<b>Goal 4: Bicycling</b>
5.1	✓	✓		
5.2	✓	✓	✓	✓
<i>Policy Section 6: Administration</i>				
<i>Policy</i>	<b>Goal 1: Travel Choices</b>	<b>Goal 2: Sustainability</b>	<b>Goal 3: Complete Streets</b>	<b>Goal 4: Bicycling</b>
6.1	✓	✓	✓	✓
6.2	✓	✓	✓	✓
6.3	✓	✓		
6.4		✓		

## WORKING DEFINITIONS OF TERMS USED IN THE TRANSPORTATION ELEMENT

**Vision.** A statement of general goals to be achieved by the plan. A broad philosophical statement describing desired end states, not necessarily attainable now or in the foreseeable future.

*Example: Davis will be a place where local destinations are safely and conveniently accessible in an environmentally and economically sustainable manner.*

**Goal.** An ideal future end or state; an expression of community values.

*Example: Increase walking and the use of non-polluting forms of transportation, including bicycles.*

**Performance Objective.** A specified end or state that is an intermediate step in attaining a goal. Should be measurable and time-specific. May be more than one objective for each goal.

*Example: Objectives, where used, “bridge” goals and policies. The Davis General Plan does not contain objectives.*

**Policy.** A statement that guides action or decision.

*Example: Develop a continuous trails and bikeway network for both recreation and transportation that serves the Core, neighborhoods, employment centers, schools...*

**Standard.** A rule or measure establishing a level of quality or quantity that must be complied with or satisfied.

*Example: There shall be no removal of existing bike lanes to add through traffic lanes.*

**Action.** A procedure, program or technique that carries out a policy. A policy should have at least one action or implementation measure.

*Example: Enhance the safety, accessibility and coverage of the existing bicycle network, especially in the vicinity of UC Davis, schools and recreation areas.*

*Source: California Office of Planning and Research and Davis General Plan.*

## GLOSSARY OF TERMS

**Activity center.** A mixed use area with a concentration of commercial and other land uses. An activity center typically functions as the node, focus, and identity of a neighborhood, community or city and varies in size. An activity center may be the downtown core, a community and neighborhood shopping center, and an area of mixed land uses. Generally, more dense and intense land uses should be closest to an activity center. An activity center is served by, and is connected to other activity centers by multiple transportation modes. *(source: combined from various sources)*

### **Bicycle terminology:**

- **Bicycle boulevard.** Low-volume and low-speed streets that have been optimized for bicycle travel through traffic calming, diversion or discouragement of non-local vehicle traffic, signage, pavement markings, and intersection crossing improvements. Bicycle boulevards are shared roadway facilities that, when correctly implemented, are comfortable and attractive to cyclists with a wide range of abilities and ages, but may be inconvenient as through routes for automobiles. Bicycle boulevards should be located on routes that serve major origins, destinations and travel corridors (often paralleling an arterial street), and should be as direct and intuitive as possible. Residential roadways with relatively low vehicle volumes are often selected for bicycle boulevards. *(source: Pedestrian and Bicycle Information Center and Initiative for Bicycle and Pedestrian Innovation)*

Bicycle boulevards are differentiated from "secondary bicycle connectors" (a term also in this glossary) in that secondary bicycle connectors may consist of more localized residential streets which may not serve major origins and destinations, and may be less direct than bicycle boulevards. In addition, infrastructure improvements on secondary bicycle connectors may be less extensive.

- **Bicycle box.** A designated area at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase. *(source: National Association of City Transportation Officials, Urban Bikeway Design Guidelines)*
- **Bicycle facilities.** Comprehensive inventory of bicycling infrastructure, amenities, and facilities including the following:

# Glossary

- **Bicycle path** (Class I Facility): A paved route not on a street or roadway and expressly reserved for bicycles traversing an otherwise unpaved area. Bicycle paths may parallel roads but typically are separated from them by landscaping.
- **Bicycle lane** (Class II Facility): A corridor expressly reserved for bicycles, existing on a street or roadway in addition to any lanes for use by motorized vehicles.
- **Bicycle route** (Class III Facility): A facility shared with motorists and identified only by signs, a bicycle route has no pavement markings or lane stripes.
- **Grade separation**: A facility that physically separates bicycles/pedestrians and motor vehicles (e.g. a tunnel, underpass, or overpass).

*(source: State of California, Office of Planning and Research, General Plan Guidelines)*

- **Buffered bicycle lane.** A conventional bicycle lane paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. *(source: National Association of City Transportation Officials, Urban Bikeway Design Guidelines)*
- **Colored bicycle lane.** Typically applied in green, colored pavement within a bicycle lane increases the visibility of the facility, identifies potential areas of conflict, and reinforces priority to bicyclists in conflict areas and in areas with pressure for illegal parking. *(source: National Association of City Transportation Officials, Urban Bikeway Design Guidelines)*
- **Contraflow bicycle lanes.** Bicycle lanes designed to allow bicyclists to ride in the opposite direction of motor vehicle traffic and are separated with yellow center lane striping. *(source: National Association of City Transportation Officials, Urban Bikeway Design Guidelines)*
- **Cycletrack.** An exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. A cycle track is physically separated from motor traffic and distinct from the sidewalk. *(source: National Association of City Transportation Officials, Urban Bikeway Design Guidelines)*
- **Davis Bike Loop.** An approximately 12 mile long route that passes through most of the major bicycling infrastructure in town.



- **Primary bikeways.** Designated bicycling thoroughfares that connect neighborhoods and/or activity centers with supportive infrastructure enhancements.
  - Volume of users
  - Level of service
  - Comfort
  - Safety
  - Distance
  
- **Secondary bicycle connector.** Bicycle routes on low-volume and low-speed neighborhood streets that are improved for bicycle travel through measures such as signage, pavement markings and traffic calming where necessary. *(term and definition developed for Davis General Plan)*

Secondary bicycle connectors are differentiated from "bicycle boulevards" (a term also in this glossary) in that bicycle boulevards would typically serve major origins and destinations, would be more direct, and measures taken typically would be more extensive.
  
- **Shared lane markings (“sharrows”).** Road markings used to indicate a shared lane environment for bicycles and automobiles. *(source: National Association of City Transportation Officials, Urban Bikeway Design Guidelines)*
  
- **Two-stage turn queue boxes.** Offer bicyclists a safe way to make left turns at multi-lane signalized intersections from a right side cycle track or bicycle lane. *(source: National Association of City Transportation Officials, Urban Bikeway Design Guidelines)*

**Capital Improvement Program.** Program to systematically plan, schedule, manage, monitor and finance capital projects to ensure cost-effectiveness as well as conformance with established policies. Includes large construction projects, equipment purchases, infrastructure maintenance replacement costs and future reserves. *(source: City of Modesto, CIP document)*

**Capital project.** Permanent improvements contributing to the assets of an entity.

*Examples: (1) Fifth Street bicycle and pedestrian improvements; (2) First and B intersection improvements; and (3) Reconstruct bike paths citywide. (source: Webster dictionary and ICMA)*

# Glossary

**Carbon emissions.** Carbon dioxide and carbon monoxide in the atmosphere produced by vehicles and industrial processes. *(source: MacMillan Dictionary)*

**Carbon neutrality.** The balance between carbon dioxide emissions released and carbon dioxide captured through offset, sequestration or carbon credits. Carbon neutrality is said to be "net zero" because it does not have a carbon foot print. It often refers to the processes in transportation, agriculture, energy production, housing, and industrial manufacturing. *(source: UK Department of Energy and Climate Change)*

**Climate change.** Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use. *(source: IPCC)*

**Complete Streets.** Streets designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. *(source: CompleteStreets.org)*

**Core Area.** For the purposes of this element, the term Core Area is used interchangeably with "downtown" and the Core Area Specific Plan boundaries are assumed.

**Curb Lane.** Vehicular through lane closest to the curb and gutter of a roadway.

**Davis Transportation Plan (DTP).** Process to assist City Council and staff in developing priorities based on goals and criteria and in implementing important transportation projects and programs as well as provide a basis for the city's transportation capital improvement program. *(source: term developed for Davis General Plan and Davis Transportation Plan)*

**Externality:** A secondary or unintended consequence. *(source: Meriam-Webster)*

**Level of Service (Motor Vehicles).** A rating system to measure and describe the operations of the segments and intersections of a roadway network. LOS is a semi-quantitative description of an intersection's operation, ranging from LOS A (indicating free flow traffic conditions with little or no delay) to LOS F (representing oversaturated conditions with traffic flows exceeding design capacity, resulting in long queues and delays). LOS at roadway segments can be qualified by several methodologies. A daily LOS is a generalized approach where the volume-to-capacity based on a theoretical daily roadway capacity is based on the number of lanes and capacity class. *(source: ESA, St. Helena, CA General Plan EIR).*

For the purposes of citywide traffic analysis, roadway congestion is generally represented by an alphabetic level of service A through F. Level F is indicative of a roadway that has exceeded its theoretical maximum capacity, and therefore fully congested.

Level of Service Criteria for Signalized Intersections		
Level of Service	Average Control Delay (sec/veh)	Generalized Description (Signalized Intersections)
A	≤ 10	Free flow
B	> 10 – 20	Stable flow (slight delays)
C	> 20 – 35	Stable flows (acceptable delays)
		Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
D	> 35 – 55	Unstable flow (intolerable delay)
E	> 55 – 80	Forced flow (jammed)
F	> 80	

Source: Highway Capacity Manual, 2000

Level of Service Criteria for Unsignalized Intersections	
Level of Service	Average Control Delay (sec/veh)
A	0 – 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

Source: Highway Capacity Manual, 2000

**Low Impact Development (LID).** The integration of site ecological and environmental goals and requirements into all phases of urban planning and design from the individual residential lot level to the entire watershed. (source: <http://www.epa.gov/owow/NPS/lidnatl.pdf>)

# Glossary

**Multi-modal transportation.** Consideration of various modes (walking, cycling, automobile, public transit, etc.) and connections among modes so each can fill its optimal role in the overall transport system. without necessarily including a holistic or integrated approach. (sources: [www.vtpi.org](http://www.vtpi.org), FHWA)

**Planning project.** A planned undertaking; a task or problem; a plan, design, scheme or research. *Examples: (1) General Plan update of Transportation element; (2) Davis Transportation Plan (DTP); and (3) Third Street improvements conceptual design plan (becomes a capital project after the design plan is completed).* (source: Webster dictionary)

**Program.** A plan or system under which action may be taken toward a goal. *Examples: (1) Collaborate with DJUSD and others to increase bicycling and walking to school (may lead to capital projects). Determine and publish safe routes to schools. (2) Enhance educational programs to teach safe bicycling techniques; and (3) Celebrate bicycling in Davis.* (source: Webster dictionary and ICMA).

**Public transportation/transit.** Passenger transportation services, usually local in scope, that is available to any person who pays a prescribed fare. It operates on established schedules along designated routes or lines with specific stops and is designed to move relatively large numbers of people at one time. (source: FHWA)

**Right of Way:** The strip of land over which a public road is built. (source: Merriam-Webster)

## **SACOG Blueprint Principles (source: SACOG):**

- **Transportation Choices.** Developments should be designed to encourage people to sometimes walk, ride bicycles, ride the bus, ride light rail, take the train or carpool. Use of Blueprint growth concepts for land use and right-of-way design will encourage use of these modes of travel and the remaining auto trips will be, on average, shorter.
- **Housing Choices.** Providing a variety of places where people can live – apartments, condominiums, townhouses, and single-family detached homes on varying lot sizes – creates opportunities for the variety of people who need them: families, singles, seniors, and people with special needs. This issue is of special concern for the people with very low-, low-, and moderate-income, often our teachers, other public employees and professionals, as well as retail employees, service workers and other people for whom finding housing

close to work is challenging. By providing a diversity of housing options, more people have a choice.

- **Compact Development.** Creating environments that are more compactly built and use space in an efficient but aesthetic manner can encourage more walking, biking, and public transit use, and shorten auto trips.
- **Mixed Land Uses.** Building homes, shops, entertainment, office, and even light industrial uses near each other can create active, vital neighborhoods. This mixture of uses can be either in a vertical arrangement (mixed in one building) or horizontal (with a combination of uses in close proximity). These types of projects function as local activity centers, contributing to a sense of community, where people tend to walk or bike to destinations and interact more with each other. Separated land uses, on the other hand, lead to the need to travel more by auto because of the distance between uses. Mixed land uses can occur at many scales. Examples include: a housing project located near an employment center, a small shopping center located within a residential neighborhood, and a building with ground floor retail and apartments or condominiums on the upper floor(s).
- **Use of Existing Assets.** In urbanized areas, development on infill or vacant lands, intensification of the use of underutilized parcels (for example, more development on the site of a low-density retail strip shopping center), or redevelopment can make better use of existing public infrastructure. This can also include rehabilitation and reuse of historic buildings, denser clustering of buildings in suburban office parks, and joint use of existing public facilities such as schools and parking garages.
- **Natural Resource Protection.** This principle encourages the incorporation of public use open space (such as parks, town squares, trails, and greenbelts) within development projects, over and above state requirements; along with wildlife and plant habitat preservation, agricultural preservation and promotion of environment-friendly practices such as energy efficient design, water conservation and stormwater management, and shade trees to reduce the ground temperatures in the summer. In addition to conserving resources and protecting species, this principle improves overall quality of life by providing places for everyone to enjoy the outdoors with family outings and by creating a sense of open space.
- **High Quality Design.** The design details of any land use development - such as the relationship to the street, setbacks, placement of garages, sidewalks, landscaping, the

# Glossary

aesthetics of building design, and the design of the public right-of-way (the sidewalks, connected streets and paths, bike lanes, the width of streets) - are all factors that can influence the attractiveness of living in a compact development and facilitate the ease of walking and biking to work or neighborhood services. Good site and architectural design is an important factor in creating a sense of community and a sense of place.

**Sustainability.** Many cities have organized their community plans around these concepts. Though the approaches differ, each uses a variation of the overarching framework described above. Often these approaches are expressed initially in the form of guiding principles that reflect the core values of the community. These principles serve a basic function: providing initial guidance for moving the community toward a desired outcome:

- Meet existing needs without compromising the ability of future generations to meet their own needs.
- Environmental Quality, Economic Health, and Social Equity are mutually dependent (Triple bottom-line) and Davis should seek an equitable balance between these three factors.
- All decisions have implications on the long-term sustainability of the organization and community (recognize and consider connections).
- Awareness and participation are key elements.
- Local actions have regional, national, and global implications.
- Recognize that resources are limited to achieve sustainability and prioritize the most important and cost effective actions.
- Cross-sector partnerships are necessary to achieve sustainability goals.

**Tailpipe emissions.** Chemicals produced by a vehicle as it runs. Includes Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Hydrocarbons (HC), Sulphur dioxide (SO<sub>2</sub>), Particulate matter (PM<sub>10</sub>), Ozone (O<sub>3</sub>). (*source: [www.climatechangeconnection.org](http://www.climatechangeconnection.org)*)

**Transportation demand management.** Moving people more efficiently through carpooling, vanpooling, using transit, bicycling, walking and telecommuting. TDM includes outreach to commuters, employers and the general public. (*source: SACOG*).

**Transportation Systems Management (TSM).** Refers to facility management strategies that improve roadway system performance including but not limited to signal timing, lane management, incident prevention, intelligent transportation systems. (*source: <http://www.vtpi.org/tdm/tdm111.htm>*)

Map 1: Travel Times and Distances	M-1
Map 2: Activity Centers	M-2
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Map 9: Davis Bike Loop	M-9
Map 10: Primary Bikeways	M-10

# Map 1 Travel Times And Distances

## Assumptions:

- Walking: 3 Miles Per Hour Average
- Bicycle: 10 Miles Per Hour Average
- Car: Based on Speed Limits and Typical Delays

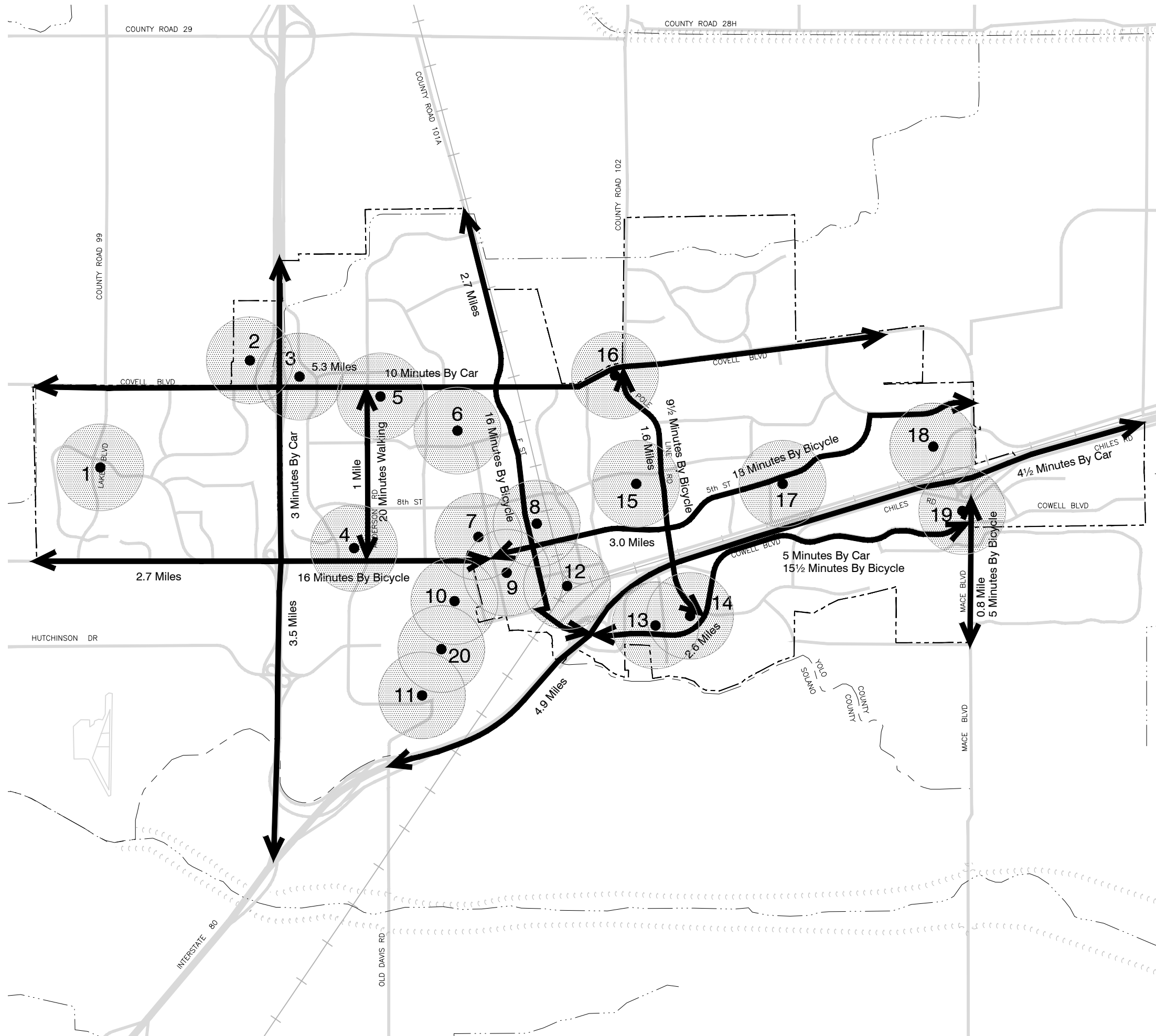
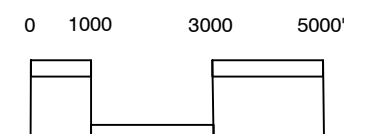
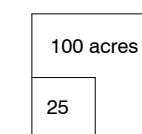
● Activity Center

1. Westlake Shopping Center / Stonegate Country Club
2. Sutter Davis Hospital / Commercial Area
3. Marketplace Shopping Center
4. University Mall Shopping Center
5. Anderson Plaza Shopping Center
6. Veterans Memorial Center / Davis High School / Yolo County Library / Community Park
7. Civic Center / DJUSD Offices / Senior Center
8. Food Co-op
9. Farmers Market / Central Park
10. UC Davis Memorial Union / Freeborn Hall / Quad
11. Mondavi Center / Hyatt Hotel / Buehler Alumni and Visitors Center / Mrak Hall
12. Transit Center / Depot
13. Kaiser Clinic
14. Oakshade Shopping Center
15. Davis Manor Shopping Center
16. Oak Tree Shopping Center
17. Fifth and Pena Commercial / Mixed Use Area
18. Second Street Crossing Shopping Center / Target
19. El Macero Shopping Center
20. UC Davis Silo

## NOTES

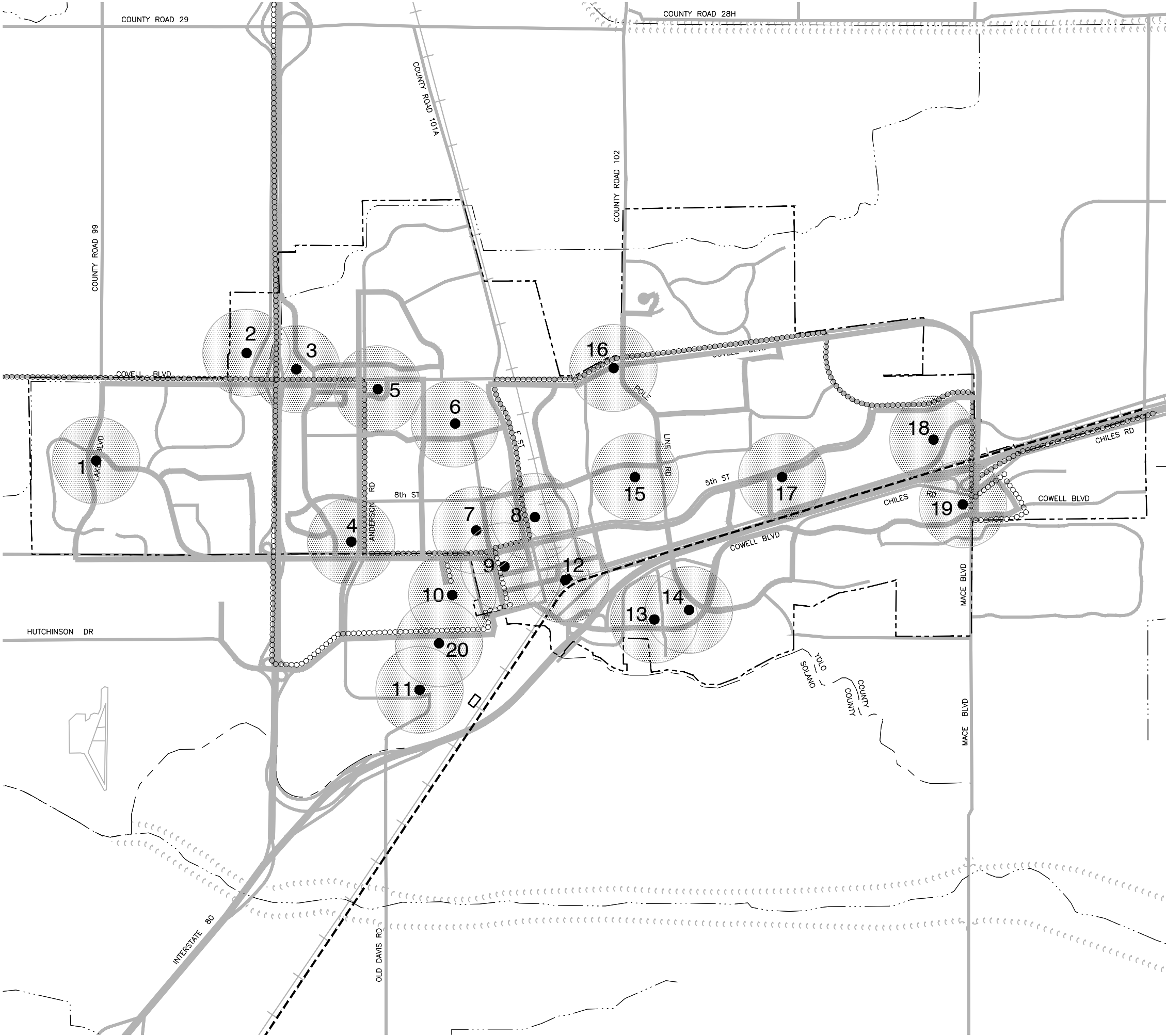
1. The distances shown on this figure are measured between the arrow points at the ends of the routes.
2. Circles represent areas within 1/4 Mile (5 minute walk) of activity centers.

Davis General Plan








# Map 2 Activity Centers

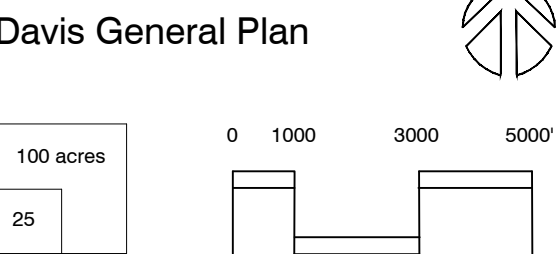


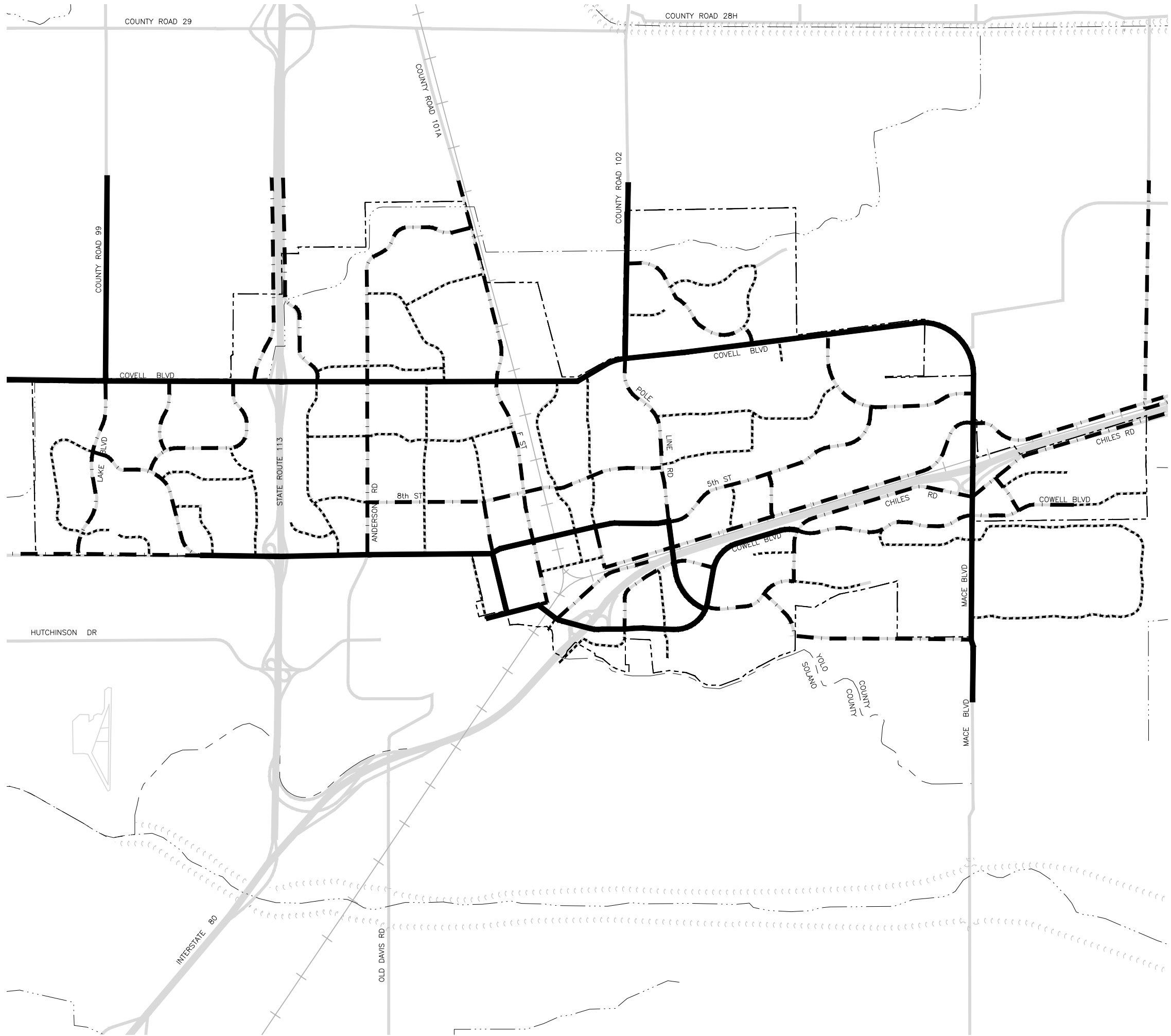
● Activity Center

1. Westlake Shopping Center / Stonegate Country Club
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12. Transit Center / Depot
13. Kaiser Clinic
14. Oakshade Shopping Center
15. Davis Manor Shopping Center
16. Oak Tree Shopping Center
17. Fifth and Pena Commercial / Mixed Use Area
18. Second Street Crossing Shopping Center / Target
19. El Macero Shopping Center
20. UC Davis Silo




-  1/4 Mile Radius with Five Minute Walking Distance
-  Existing Transit Routes of Unitrans
-  Existing Transit Routes of Yolobus

**NOTES**  
 1. This map primarily illustrates routes of continuous service and does not show all of the express routes of Unitrans and Yolobus.

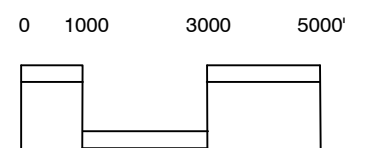
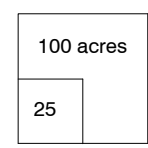







# Map 3 Street Classifications

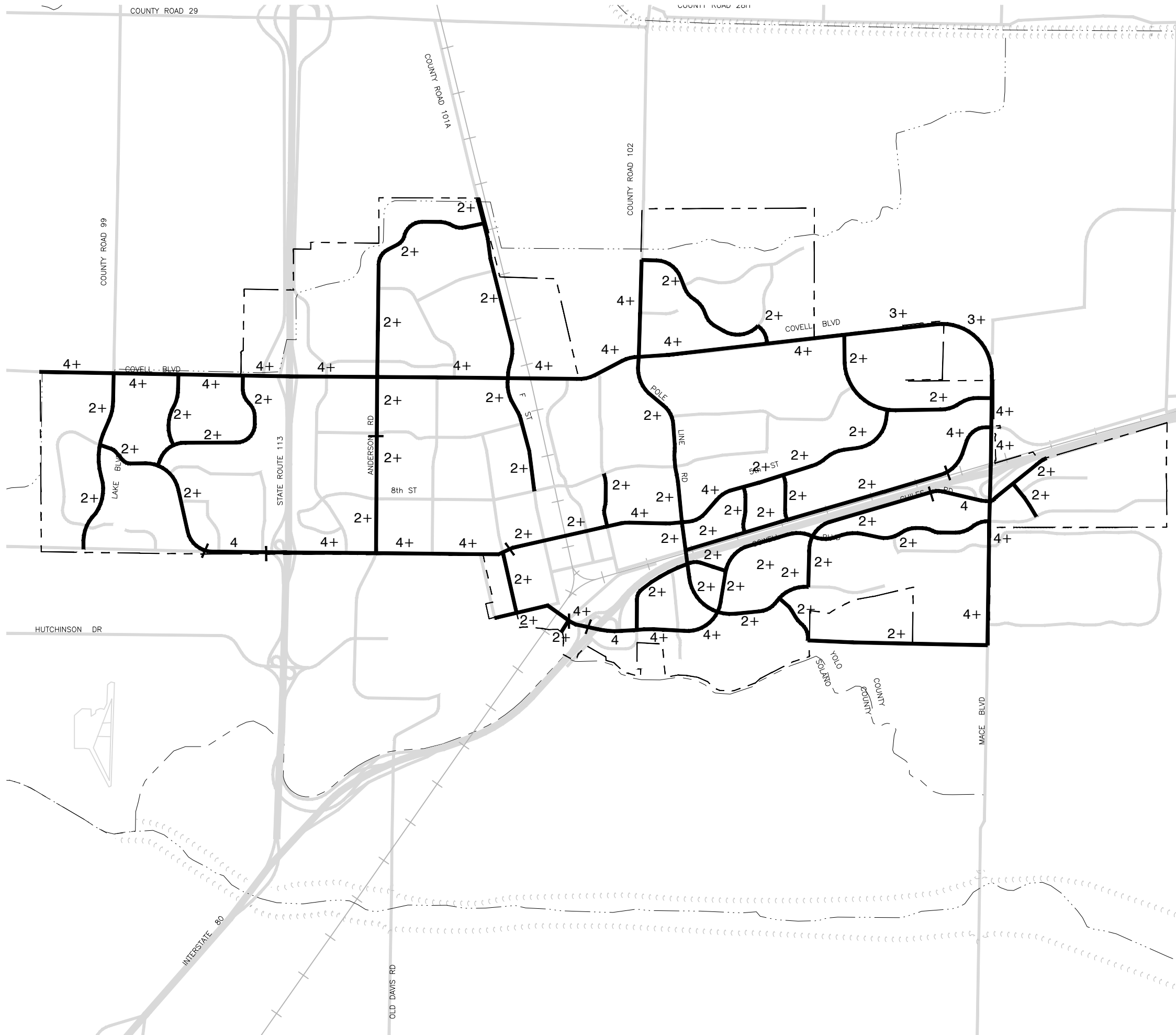
-  Major Arterial
-  Minor Arterial
-  Collector

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# Map 4 2015 Planned Lane Configurations

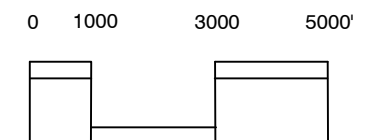
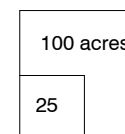
-  Streets With More Than 2 Lanes
-  4 Number of Lanes
-  + With Turn Lanes




### NOTES

1. The number of lanes shown reflect through travel lanes.
2. Streets not showing number of lanes are two lane streets. There are no through streets planned for greater than 4 lanes.
3. The number of lanes shown does not reflect turn lanes at or near intersections.
4. Corridor plans identified in this section may supersede planned lane configurations.

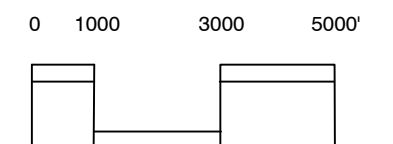
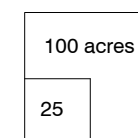
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# Map 5 Corridor Plans

-  Corridor Plans
- ① Anderson Road - Russell Boulevard to Covell Boulevard
  - ② Chiles Road - Drummond Avenue to East City Limit
  - ③ Covell Boulevard - Pole Line Road to F Street
  - ④ Covell Boulevard - F Street to State Route 113
  - ⑤ Covell Boulevard - State Route 113 to West City Limit
  - ⑥ Cowell Boulevard - Interstate 80 to Drummond Avenue
  - ⑦ Eighth Street - B Street to Pole Line Road
  - ⑧ F Street - Third Street to Covell Boulevard
  - ⑨ Fifth Street - B Street to L Street & Russell Boulevard - A Street to B Street
  - ⑩ Fifth Street - L Street to Cantrill Drive
  - ⑪ First Street and B Street - Richards Boulevard to Russell Boulevard
  - ⑫ L Street - Second Street to Covell Boulevard
  - ⑬ Lillard Drive - Cowell Boulevard to Drummond Avenue
  - ⑭ Loyola Drive - Pole Line Road to Mace Ranch
  - ⑮ Mace Boulevard - Harper Junior High to Interstate 80
  - ⑯ Mace Boulevard - Interstate 80 to South City Limit
  - ⑰ Olive Drive - West End to East End
  - ⑱ Pole Line Road - Covell Boulevard to North City Limit
  - ⑲ Pole Line Road - Interstate 80 to Covell Boulevard (Upgrades)
  - ⑳ Richards Boulevard - First Street to Interstate 80
  - ㉑ Russell Boulevard - A Street to State Route 113
  - ㉒ Russell Boulevard - State Route 113 to West City Limit
  - ㉓ E Street Promenade - First Street to Third Street

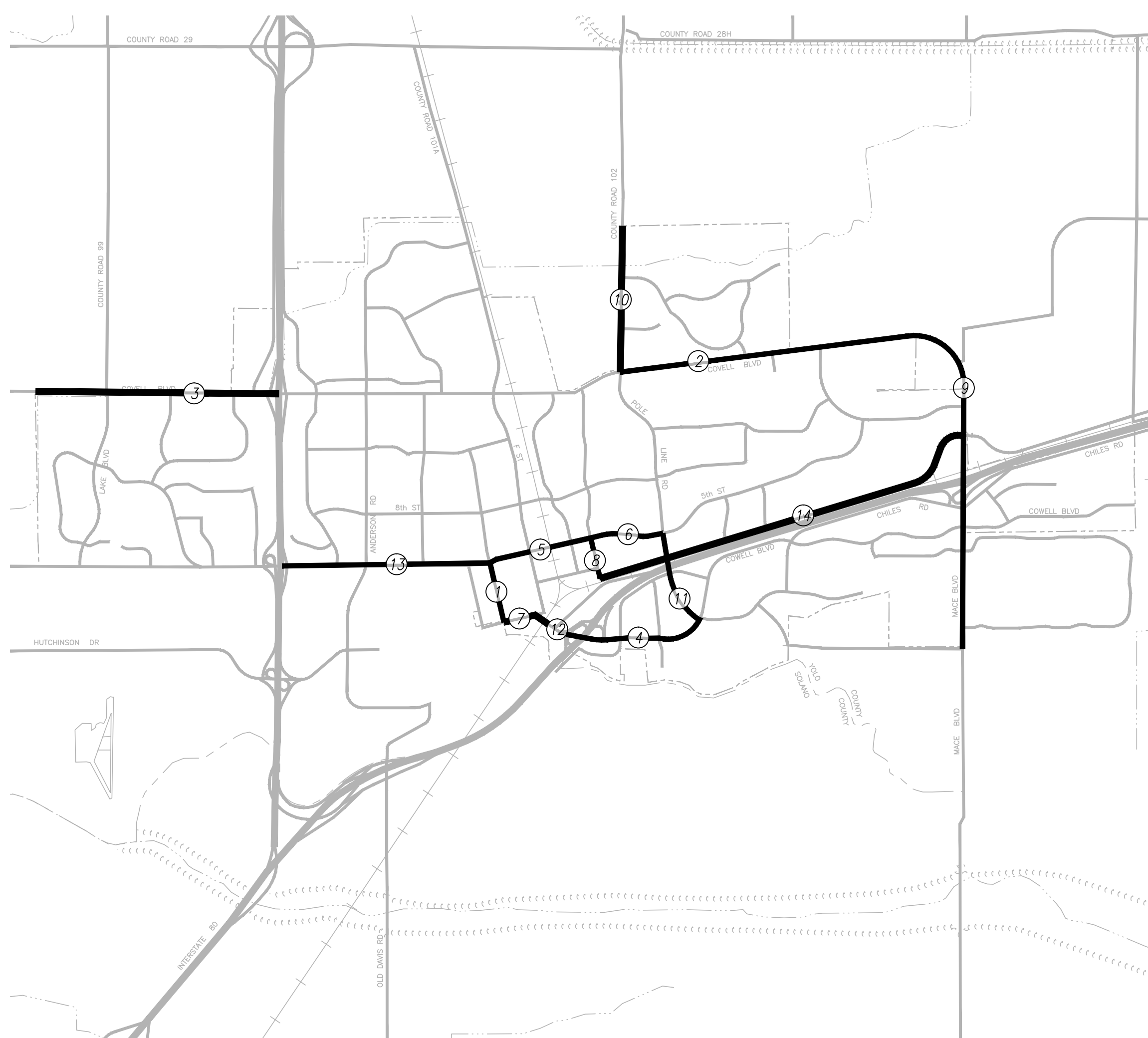
## Davis General Plan



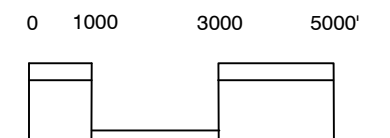
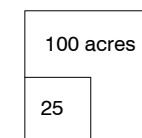
# Map 6 Truck Routes

 Truck Routes



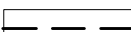

- ① B Street - First Street to Fifth Street
- ② Covell Boulevard - Pole Line Road to Mace Boulevard
- ③ Covell Boulevard - West City Limits to State Route 113
- ④ Cowell Boulevard - Pole Line Road to Richards Boulevard
- ⑤ Fifth Street - B Street to L Street
- ⑥ Fifth Street - L Street to Pole Line Road
- ⑦ First Street - B Street to Richards Boulevard
- ⑧ L Street - Second Street to Fifth Street
- ⑨ Mace Boulevard - Covell Boulevard to South City Limits
- ⑩ Pole Line Road - Covell Boulevard to North City Limits
- ⑪ Pole Line Road - Fifth Street to Cowell Boulevard
- ⑫ Richards Boulevard
- ⑬ Russell Boulevard - State Route 113 to B Street
- ⑭ Second Street - L Street to Mace Boulevard

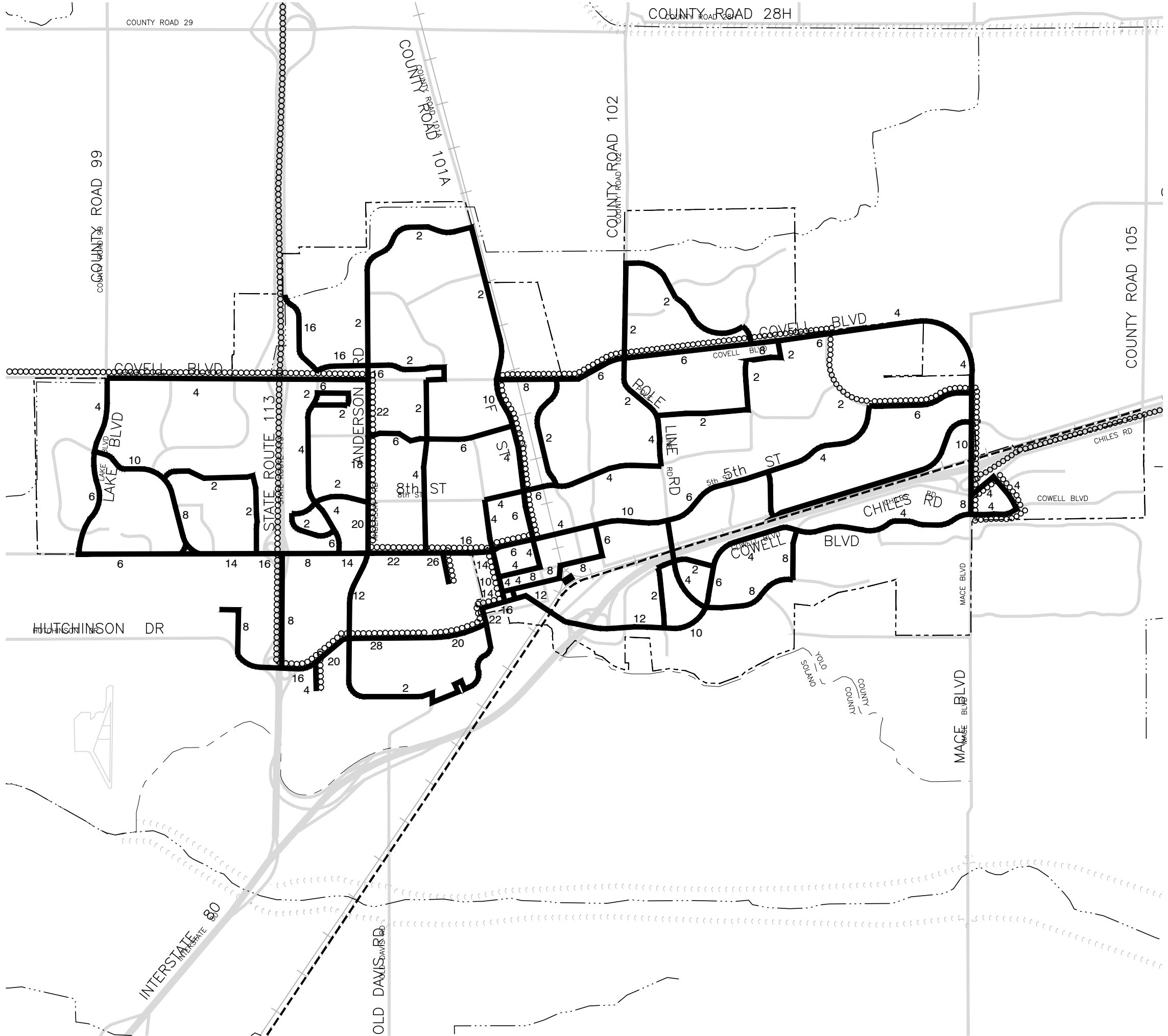


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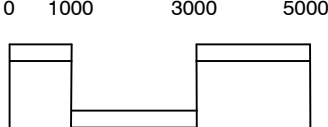
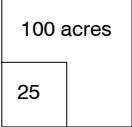
# Map 7 Public Transportation Routes

-  Unitrans - Existing Routes
-  Yolobus - Existing Routes
-  Regional Rail Line - Existing
-  Regional Rail Station - Existing







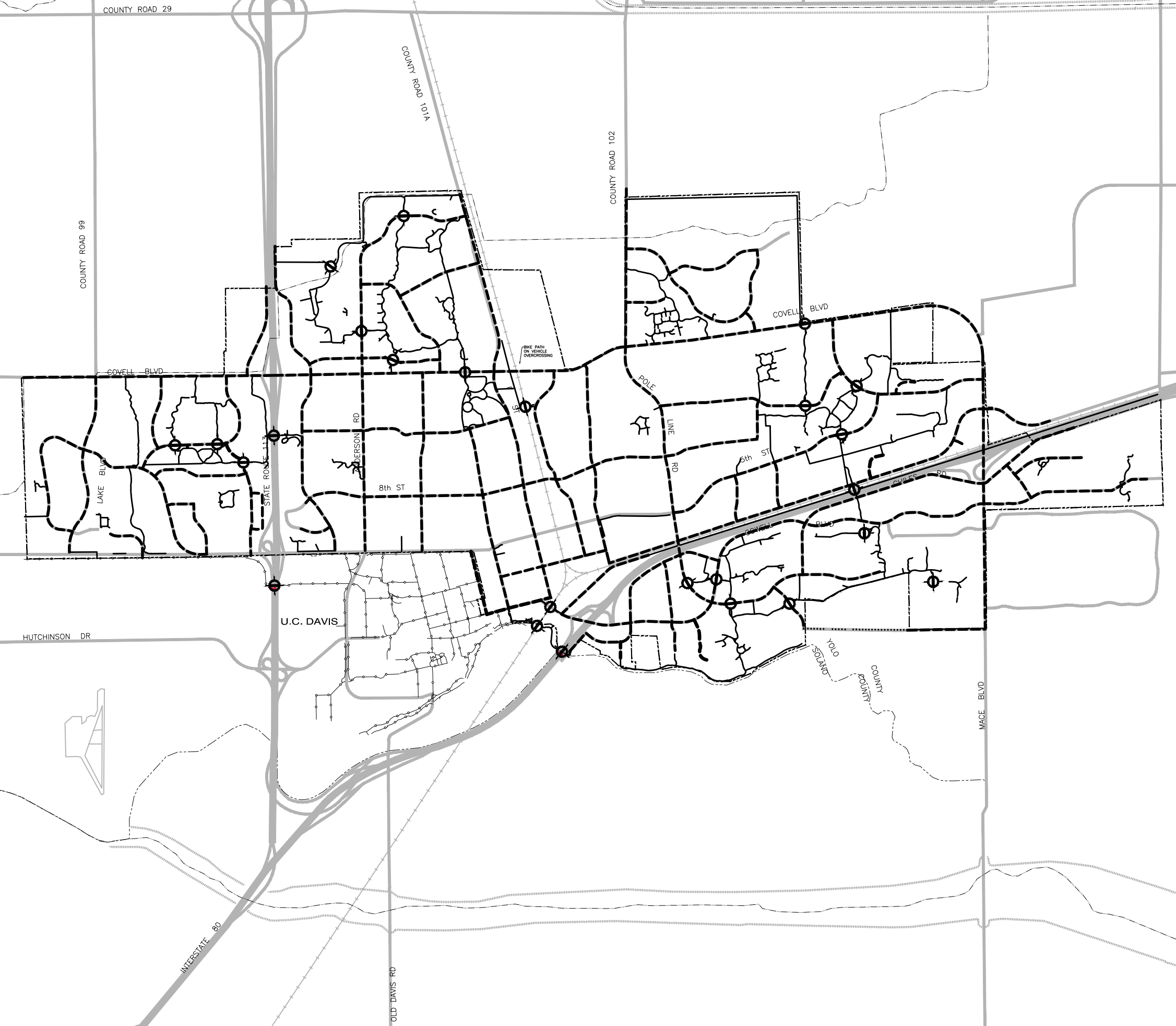
- NOTES**
1. This map primarily illustrates routes of continuous service and does not show all of the express routes of Unitrans and Yolobus.
  2. Numbers indicate the number of one-way scheduled Unitrans trips per hour during "Regular Service" based on 2013-2014 schedule plus the Yolobus 42A/B and 220 routes.
  3. This map does not illustrate the regional systems of Amtrak Rail, Greyhound Bus, or Bay Link Bus-Ferry.

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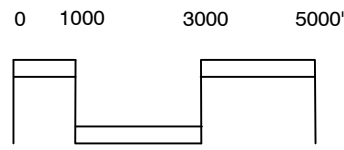
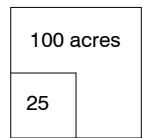
# Map 8 Bicycle Facilities

-  Existing Bike Lanes
-  Existing Bike Paths
-  Existing Grade Separation
-  UCD Bike Paths



- NOTES**
1. This map is to illustrate a general bicycle network only. See the City's Bicycle Plan for more specific information on routes, facilities and improvements.
  2. The network is comprised of bike paths, bike lanes and shared roadways. Not all of the existing or proposed network is shown.

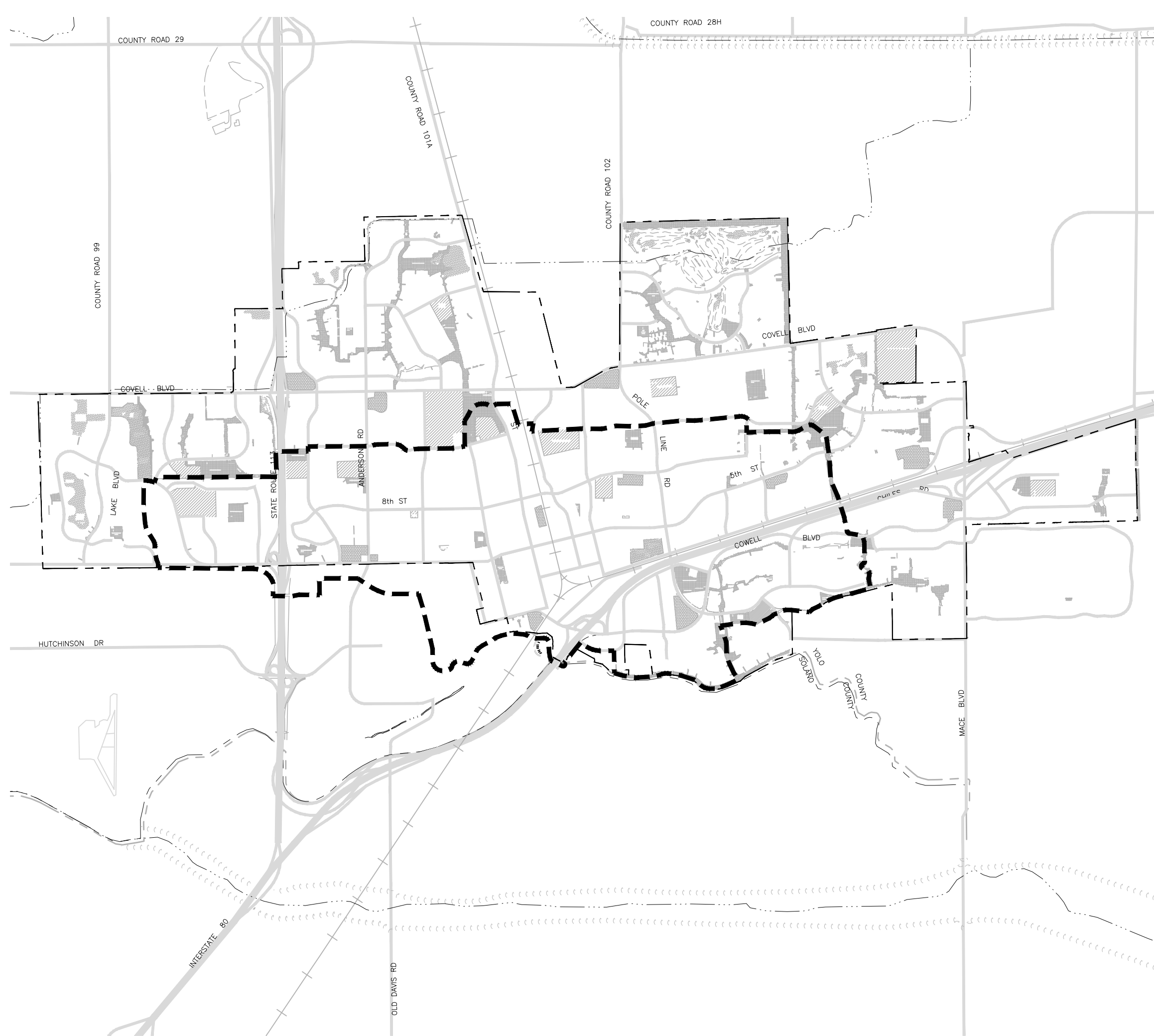
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# Map 9 Davis Bike Loop

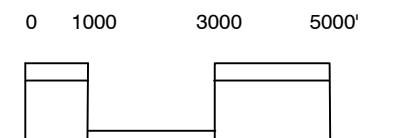
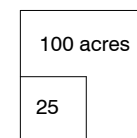
 Davis Bike Loop




### NOTES

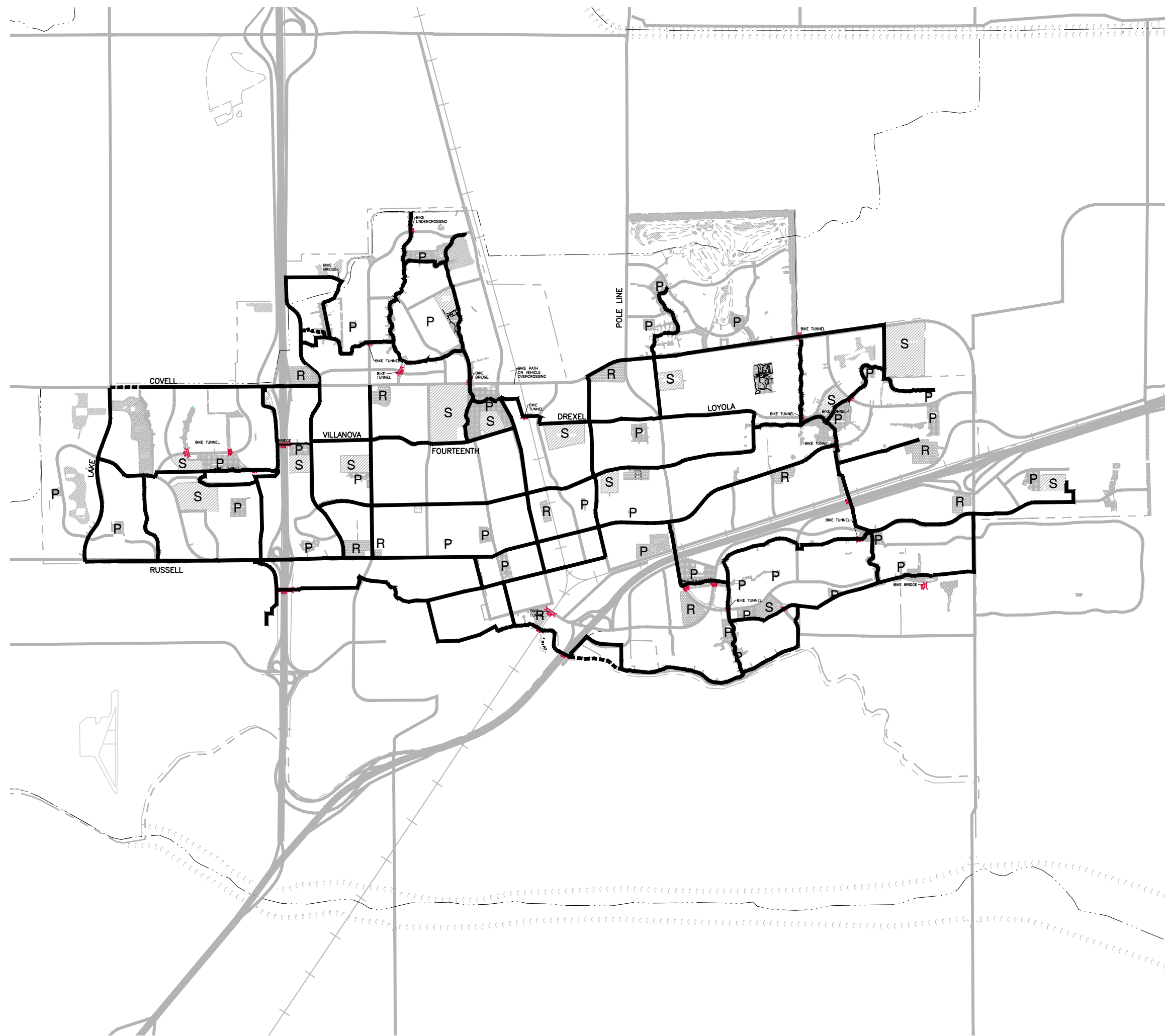
1. The Davis Bike Loop is approximately 12 miles in length and utilizes on-street bicycle lanes, off-street paths and routes through the City and UC Davis campus.
2. This map illustrates the Bike Loop in general. See the City's Bicycle Plan for more specific information on routes, facilities and improvements.

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# Map 10 Primary Bikeways

 Primary Bikeways



### NOTES

1. This general plan map is for illustrative purposes. A more detailed map is located in the City's bicycle plan.
2. Background information on this map includes schools (S), parks (P), neighborhood retail (R) and greenbelts.
3. Dotted lines represent needed connections.

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