CITY OF VACAVILLE DOWNTOWN SPECIFIC PLAN

PARKING ANALYSIS AND POLICY STRATEGY

PUBLIC DRAFT

JULY 2020

PREPARED FOR:

CITY OF VACAVILLE

DKS

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EXECUTIVE SUMMARY

The purpose of this report is to provide recommendations for parking policy and management to be included in the Downtown Vacaville Specific Plan. The report builds off of the parking review and analysis summarized in the *Downtown Connectivity and Streetscape Design Plan Existing Conditions* document, and the public outreach conducted with stakeholders and business owners from Downtown Vacaville. The *Downtown Connectivity and Streetscape Design Plan Existing Conditions* document, and the recorded parking webinar that occurred on 4/23/20 are available for viewing at https://www.letstalkvacaville.com/downtown-specific-plan. This report includes a summary of the existing parking facilities and usage, a review of identified parking issues and deficiencies, strategies for parking management with descriptions and context, and parking improvement recommendations for the Downtown Vacaville Specific Plan. Solutions to address parking needs for Downtown Vacaville will provide a critical piece of the Specific Plan that will align with improving safety, street and public space activation, and multimodal access to storefronts. Success in meeting these goals is affected by ensuring that people have a desire to visit Downtown and, when they do, they are confident in being able to find parking and, if they have to walk further to access their destination, they are comfortable and feel safe during that walk.

With the advent of COVID-19 during the spring and summer of 2020, people's travel habits have changed dramatically, with reductions in vehicular travel to shopping, dining, work, and recreational destinations. At the time of writing this report, it remains unclear how soon travel patterns will return to "normal," or if the current pandemic will result in a new normal as the nation, region, and City reopen. Demand for parking could be replaced by demand for merely stopping near a business to pick up food or goods for delivery. Cities are going to need to adapt to unprecedented changes in personal behavior that have taken place during the pandemic lockdown and may result in long-term or permanent changes in personal behavior, and how merchants and restaurants conduct business, and how people interact with these uses.

EXISTING CONDITIONS

Currently within the study area, there are thirteen off-street parking public parking lots and ample on-street parking, as shown in **Figure 1**. There are a mix of short-term (time limits of 4 hours or less) and long-term (time limits longer than four hours) parking areas both on-street and off-street. Parking occupancy at different areas within the study area fluctuates over the course of the day, with some locations at or close to occupancy during specific times of day. However, the Downtown area as a whole has an adequate number of short-term and long-term parking spaces during all time periods. The highest occupancy was observed for short-term parking during midday with 69% of spaces filled, and 42% of long-term parking spaces filled in the morning.

PARKING ISSUES AND DEFICIENCIES

The primary parking issue to be addressed in Downtown is the contrast between the perception that there is insufficient parking, and the observed occupancy showing that there is a large amount of unused parking throughout the day. This contrast is primarily due to two main issues: lack of

knowledge of available parking areas, and a low tolerance for walking between parking areas and destinations.

The lack of knowledge regarding available parking comes from inconsistent parking signage throughout Downtown, as well as minimal wayfinding to assist in locating public parking facilities. As a result, the majority of parking demand is concentrated in a few parking lots and streets, giving the appearance of limited available parking.

STRATEGIES

Strategies are divided into three categories: capital strategies, operational strategies, and policy strategies.

Capital Strategies include revised and updated signing, striping, circulation, and amenities for existing parking lots and roadways, and consolidation of parking in low occupancy areas to provide room for other uses such as bicycle facilities. The strategies are focused on improving safety, circulation, and appearance.

Operational Strategies include how parking is managed through time limits, curbside use, enforcement, and shared parking agreements. These strategies are focused on utilizing parking more efficiently and effectively.

Policy Strategies include how the City approaches parking at a policy and regulation level. The Specific Plan currently in development has a stated goal of managing parking resources in Downtown to promote a "Park-once-and-walk" environment. This is supported by the following proposed policies:

> **Park Once.** Encourage an environment where employees and customers can park in one location and visit multiple Downtown destinations via high-quality pedestrian pathways, including well lighted routes from public parking lots to major commercial streets and locations within the Downtown.
>
> **Parking Management and Distribution.** Provide thoughtfully distributed parking supply based upon quantified need that includes both on-street and off-street options, both publicly and privately owned.
>
> **Curbside Management.** Balance on-street parking with other curbside mobility and business service needs.

These strategies are focused on evaluating the performance of existing and future parking and determining what parking requirements will apply to future land use.

RECOMMENDATIONS

The recommendations that were identified for implementation are summarized below in **Table 1** and shown in **Figure 1**. Details for specific recommendations are included in the final section of this report.

TABLE 1: SUMMARY OF RECOMMENDED PARKING STRATEGIES

PARKING STRATEGY	RECOMMENDATIONS
CAPITAL STRATEGIES	
IMPROVED CONFIGURATION OF EXISTING LOTS	Add directional guidance arrows, diagonal parking in one-directional lanes, and consolidated access/egress.
IMPROVED WAYFINDING AND SIGNAGE	Install consistent branding and identification of public parking, and improved access control. This could include themed art installations.
STREETSCAPE IMPROVEMENTS	Install improvements consistent with the *Downtown Connectivity and Streetscape Design Plan*, such as enhanced landscaping and improved lighting, providing safe and comfortable walking paths between parking and destinations.
PARKING CONSOLIDATION	Remove parking along both sides of Merchant Street (from Parker Street to Dobbins Street) and Dobbins Street (from Merchant Street to Monte Vista Avenue) to allow for a bicycle lane and absorb existing demand at nearby parking facilities.
LOT AMENITIES	Install pedestrian striping, waste receptacles, pedestrian-scale lighting, Electric Vehicle charging, and Closed-Circuit Television at key lots.
OPERATIONAL STRATEGIES	
MODIFIED PARKING TIME-LIMITS	Convert the majority of the Town Square parking lot to short-term parking. Maintain long-term parking adjacent to the library and the McBride Senior Center.
CURBSIDE MANAGEMENT AND MULTIMODAL VEHICLE SHARING	Convert two spaces along Parker Street at Main Street to ride-hail loading zones and temporarily convert one space per block and per side of the street along Main Street (from Parker Street to Davis Street) to 30-minute parking for COVID-related delivery/pick-up.
FOCUSED PARKING ENFORCEMENT	Limit the majority of enforcement operations to short-term and high demand parking locations.
SHARED PARKING AGREEMENTS	Coordinate with private parking lot owners in areas with high evening parking demand to allow for limited public parking.

POLICY STRATEGIES	
OUTDOOR DINING PROGRAM	Continue with the City's COVID-19 Outdoor Dining Program during shelter-in-place conditions and consider making this a permanent program afterwards based on interest and approval from nearby businesses.
FREIGHT LOADING TIME RESTRICTIONS	Prohibit on-street and public parking lot loading operations from 12:00 pm to 1:30 pm, unless an exemption is approved.
OFF-SITE PARKING DESIGN STANDARDS	Update the *Vacaville Land Use and Development Code* to be consistent with lot design and signing recommendations.
REDUCED INFILL PARKING REQUIREMENTS	Update the *Vacaville Land Use and Development Code* to encourage infill development while ensuring sufficient parking.
ONGOING MONITORING AND EVALUATION OF PARKING	Collect annual parking occupancy and turnover data, consistent with previous recommendations to collect data after time limits are updated.

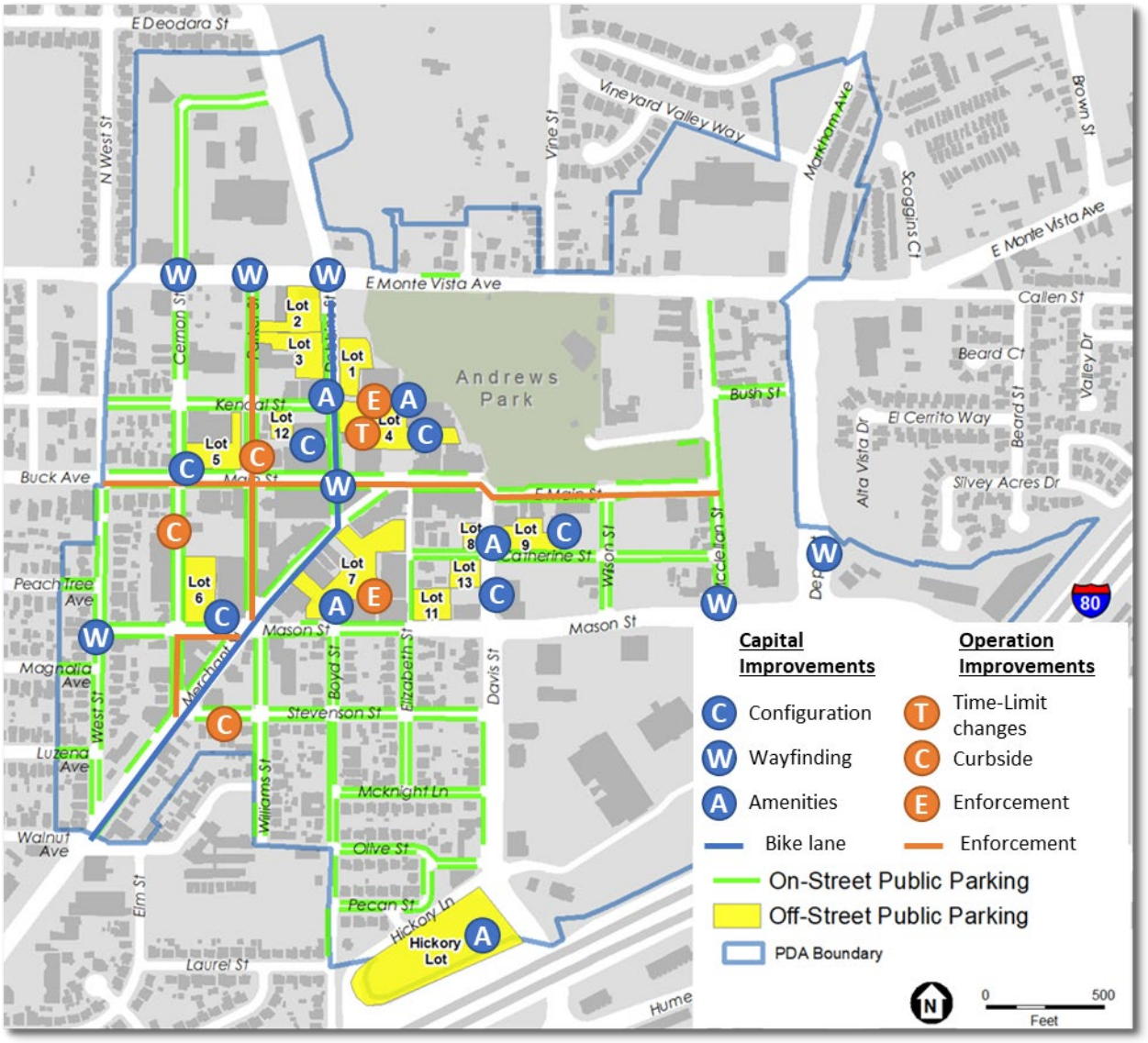


FIGURE 1: EXISTING PARKING FACILITIES

SUMMARY OF EXISTING CONDITIONS

PARKING FACILITIES

Thirteen off-street parking lots available for public parking and all on-street parking within the Downtown Specific Plan boundary were observed. Occupancy levels during the weekday morning (9:00AM), midday (noon), and afternoon (4pm) were collected to determine demand levels. The on-street and off-street parking locations with recommendation locations are shown in **Figure 1**. More detailed information for the study roadways and lots with cross-sections and traffic volumes can be found in the Existing Conditions report included in the Appendix.

While on- and off-street parking are provided in similar quantities, there are approximately twice as many long-term spaces provided as short-term spaces. The majority of off-street parking is signed for long-term parking (70%) and is located within an area bounded by Cernon Street to the west, Mason Street to the south, Wilson Street to the east, and East Monte Vista Avenue to the north with a high concentration of commercial land use. On-street parking is distributed throughout the Downtown Specific Plan area.

PARKING USAGE AND OCCUPANCY

Observed occupancy shows the midday peak to be when short-term occupancy is highest. While some parking lots and roadways with on-street parking are full or near full at midday in general, the parking stock in Downtown is adequate for the observed existing demand. Only a few of the on- and off-street parking facilities are at or near capacity during more than one of the three time periods surveyed, however very few facilities are at or near capacity during all three counted time periods. Aggregated across the Downtown Specific Plan area, at most, only 68% of short-term spaces and 42% of long-term spaces are occupied at any given time as shown in **Figure 2**.

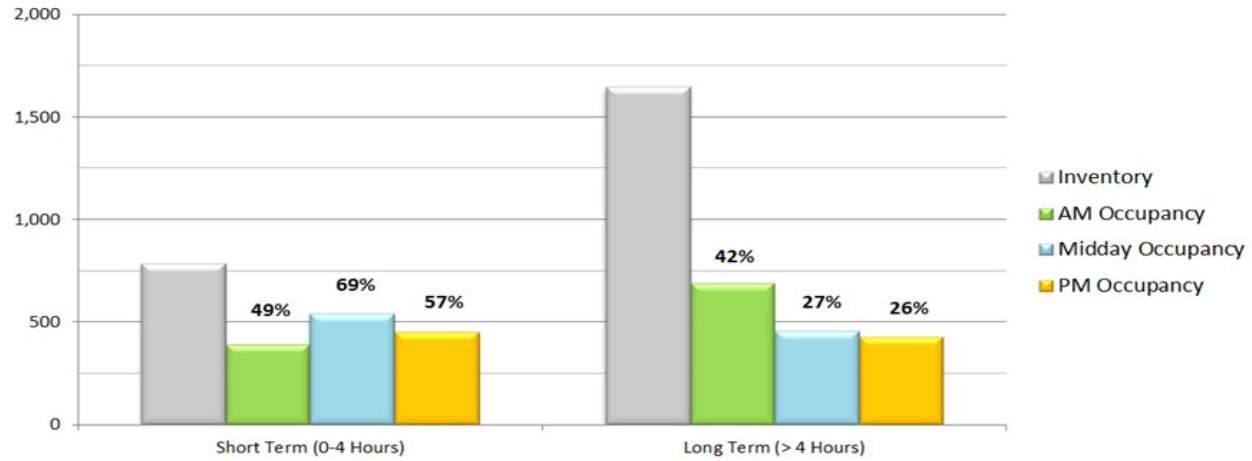


FIGURE 2: SHORT-TERM AND LONG-TERM PARKING OCCUPANCY BY TIME PERIOD

PARKING ISSUES AND DEFICIENCIES

To better understand the parking needs for Downtown, this report includes several categories of analysis. Operational parking needs involve factors having to do with the safe and efficient operation of parking facilities and circulation of vehicles and are generally measurable or observable based on defined thresholds or standards of practice. Perceived parking needs are generally identified through user experience or perception and are identified through stakeholder and community outreach.

OPERATIONAL ISSUES AND DEFICIENCIES

PARKING OCCUPANCY

While parking impacts are not included in CEQA or defined by a specific threshold in the Vacaville General Plan, operational parking deficiencies are often identified as locations that have greater than 85% occupancy during peak periods which can lead to potential users being unable to find parking within a reasonable amount of time. While a couple of locations fill up higher than 85% during one or more of the studied periods, such as Lot 7 (the "triangle lot") and on-street parking along Merchant Street and Dobbins Street, occupancy is usually measured within a quarter mile of the study location. Over a larger area, there is currently no deficiency of overall parking availability within Downtown.

CIRCULATION AND DESIGN

In terms of circulation, the majority of off-street parking lots have sufficient width and marked arrows to denote appropriate direction of travel for two-directional travel lanes and diagonal parking with a single arrow for one-directional travel lanes. However, several lots show deficiencies in appropriate striping or parking configuration based on travel lane width or access points. A summary of the design components is provided in **Table 2** and lots are shown in **Figure 3**.

TABLE 2: PARKING LOT DESIGN AND CIRCULATION

	DIRECTIONAL GUIDANCE	CIRCULATION	PARKING ALIGNMENT	DESIGN NOTES
LOT 1	None	Wide enough for two-directional travel	Perpendicular	No issues identified
LOT 2	None	Wide enough for two-directional travel	Perpendicular	No issues identified
LOT 3	Two-directional arrows	Wide enough for two-directional travel	Perpendicular	No issues identified
LOT 4	None	Wide enough for two-directional travel with dead-end behind shops	Perpendicular	Dead-end includes a small area to turn around.
LOT 5	One/two-directional arrows	Wide enough for one/two-directional travel	Perpendicular/ Diagonal	Access/egress on Cernon Street and Parker Street not aligned with the travel lane
LOT 6	Some lanes have two-directional arrows	Wide enough for two-directional travel	Perpendicular/ Diagonal	Seven curb cuts with five used for access and egress
LOT 7	Two-directional arrows	Wide enough for two-directional travel	Perpendicular	There are many routes of travel through the lot
LOT 8	None, but very small lot	Wide enough for two-directional travel	Perpendicular	No issues identified
LOT 9	Two-directional arrows	Wide enough for two-directional travel	Perpendicular	No stop bar at main exit
LOT 11	None	Wide enough for two-directional travel	Perpendicular	No issues identified
LOT 12	One-directional arrows	Wide enough for one-directional travel	Perpendicular/ Parallel	The marked accessible spot does not have an appropriate loading area while an adjacent non-accessible space does
LOT 13	None	Wide enough for two-directional travel with a dead end	Perpendicular	Second travel lane has a dead end with no space to turn around
HICKORY LOT	None	Wide enough for two-directional travel	Perpendicular	There are many routes of travel through the lot

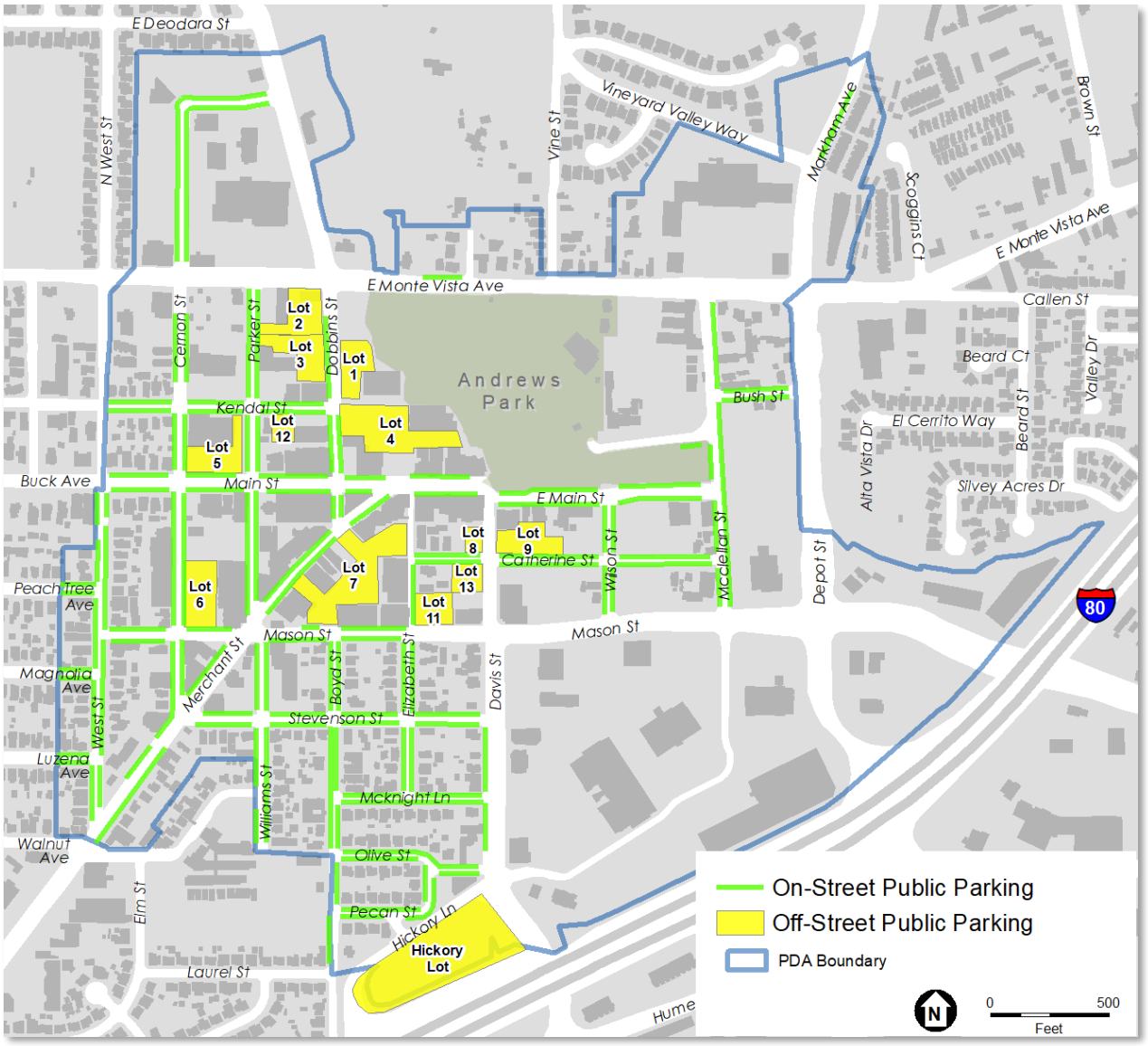


FIGURE 3: EXISTING PARKING LOCATIONS

LOT SIGNAGE

Lot signage can play multiple roles in communicating with users: informing that the lot is available for public parking, identifying any restrictions for time limits, and for separating access and egress points when relevant. Appropriate signage can reduce confusion and improve circulation and safety. A summary of signage included or missing at each of the lots is included in **Table 3**.

TABLE 3: PARKING LOT SIGNAGE

	PUBLIC PARKING SIGNAGE	TIME LIMIT SIGNAGE	ACCESS/EGRESS SIGNAGE
LOT 1	Signed as limited use only (McBride Senior Center) lot; Unclear if the north portion is public	None	N/A
LOT 2	None	Yes, 10-hour	N/A
LOT 3	At the Dobbins Street entrance	Yes, 10-hour	Yes
LOT 4	Along Dobbins Street adjacent to the lot but unconnected to an access point	Yes, 10-hour with some 2-hour spots behind stores	N/A
LOT 5	On the corner, unconnected to an access point	None	No signage at the exit only curb cut on Kendal Street
LOT 6	None	Yes, 2-hour in the perpendicular section; No signage in the diagonal section	No signage at the exit only curb cut on Cernon Street
LOT 7	Wayfinding signage at Main Street and Elizabeth Street, and none at lot entrance; Internal signage not visible from access points	Yes, 2-hour	Yes
LOT 8	On the corner, nearby an access point	None	N/A
LOT 9	On the corner, unconnected to an access point but can be inferred for the lot	None, adjacent section with permit parking only	N/A
LOT 11	None with minimal separation from adjacent bank parking lot	Minimal signage on two spaces 4-hour	N/A
LOT 12	Minimal at entrance; Unbranded	Minimal at entrance 72-hour	Yes
LOT 13	None	None	No access sign at alley egress
HICKORY LOT	Minimal at entrance; Unbranded	Minimal at entrance 72-hour	N/A
ON-STREET	N/A	50% of parking unsigned	N/A

PERCEIVED ISSUES

While quantifiable deficiencies or design shortfalls can identify a large number of circulation and safety issues, it is necessary to understand how users perceive (or do not perceive) parking facilities and operations in order to pinpoint any unidentified issues and ultimately change behavior. As parking facilities are used by different people for different purposes, it is important to engage with a range of community members and stakeholders to ensure the full range of issues and needs are identified.

This project included multiple rounds of public outreach, both for the broader specific plan in general as well as a more focused session specifically for parking issues and preliminary strategy recommendations. The following wants and needs were identified during the public outreach process:

- Improve public perception of the Downtown area as a commercial or recreational destination.
- Increase real-time awareness of parking availability.
- Increase short-term parking opportunities for business customers.
- Improve enforcement where short-term spaces fill up.
- Encourage employee parking opportunities separate from customer parking.
- Focus improvements on improved safety and user friendliness.

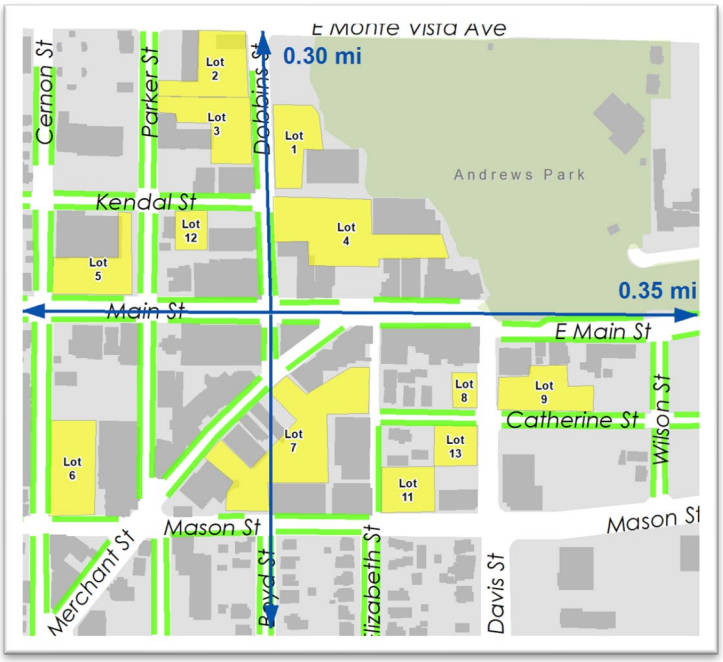


FIGURE 4: AREA OF HIGHEST COMMERCIAL DENSITY

There are two main themes that come from the community feedback: encourage people to want to come to Downtown and, once they come, ensure that they can find parking within a reasonable distance of their desired destination. In Downtown, the highest density commercial area is contained between Monte Vista Avenue and Mason Street to the north and south, respectively, and Cernon Street and Wilson Street to the west and east, respectively, as shown in **Figure 4**. The average walking distance between any two locations in this area is less than ¼ mile. These two themes can be addressed by improving the complete user experience as shown below in **Figure 5**.

FIGURE 5: COMPLETE USER PARKING EXPERIENCE

Each aspect aligns with one or more of the stated needs identified during the public outreach process:

DESIRED ARRIVAL

The Downtown already has an established identity, however it competes with other commercial centers in Vacaville, such as Nut Tree Plaza. There are already multiple key destinations in Downtown, including the library and McBride Senior Center, shops and restaurants along Main Street and Merchant Street, Andrews Park, and the Downtown Transit Center. The concentration of shops along Main Street and Merchant Street specifically offer opportunities to park once and spend time walking between multiple destinations or exploring the adjacent park.

FINDING PARKING

The perceived lack of available parking is associated with a lack of knowledge of the range of available parking in Downtown. During an outreach session, one user stated that if they were unable to find parking in two locations, they would leave. If the majority of users focus on one or two primary lots as the source of parking, then this has a double effect: both driving up occupancy at those lots as well as making Downtown less of an attractive destination if parking at those lots is consistently difficult to find. The City of Davis has recently updated their Downtown Parking Plan which represents a nearby and high quality example with similar goals. The *City of Davis Downtown Parking Management Plan*[1] provides a summary of the parking experience that Downtown visitors expect:

- Free parking;
- Destinations to be visible from parking areas;
- Easy to find parking.

ACCESSING DESTINATION AND RETURNING TO PARKING

If users are to accept longer walking distances to better utilize all available parking areas, they must feel safe and comfortable during the walk, feel confident in knowing how to access their destination, and ideally even enjoy the walk. This comes from an attractive and clean streetscape,

[1] https://www.cityofdavis.org/city-hall/public-works-engineering-and-transportation/transportation/transportation-planning/downtown-parking, 2014

sufficient separation from vehicles traveling at speed, consistent and maintained sidewalks and walkways, and appropriate pedestrian scale lighting.

PARKING MANAGEMENT STRATEGIES

The following section provides a range of capital, operational, and policy strategies for parking management as well as descriptions of each strategy with context and applicability to the Vacaville Downtown. These strategies have been informed through a review of engineering guidance, stakeholder input, and from recommendations provided in nearby and recent Parking Management Plans for the Cities of Berkeley, Davis, San Leandro, and San Mateo.

While broader applicability for Downtown will be discussed in this section, the specific recommendations for improvements and strategy implementation are identified in the next section.

CAPITAL STRATEGIES

Capital parking strategies include projects that range in cost and scope and involve construction, installation, or reconfiguration of parking facilities, striping, or signage.

Improved Configuration of Existing Lots: In order to improve circulation and safety at off-street parking lots, certain design components should be used to reduce user confusion, provide for directed flow that minimizes conflict points, provide sufficient room for required maneuvering, and minimize access/egress points or separate access from egress to minimize interaction with traffic. In some cases, this can also allow for more efficient use of space and an increased number of parking stalls. Specific deficiencies for each off-street lot are identified in the previous section.

Improved Wayfinding and Signage: Given the broad community perception of insufficient parking, combined with clear observation of underutilized parking facilities, implies that there is a deficiency of communicating the availability and location of parking in the Downtown. Wayfinding allows for increased user awareness of parking availability that would otherwise require trial and error. This combined with signage that adequately defines which lots are available for public parking and communicates the time-limits associated with each parking area can both raise awareness of already available parking as well as potentially allowing users to park closer to their destination. Alternatively, confusing or vague parking signage can discourage potential users if they are unsure if the lot is available for public parking or fear that parking could result in citation or towing.

The *Downtown Connectivity and Streetscape Design Plan* (Streetscape Design Plan) has already identified wayfinding and signage as a way to address public perception of parking availability. Broader recommendations include ensuring that

public parking wayfinding signs are located at primary entrances to the Downtown area (Mason Street, Depot Street, Monte Vista Avenue, Cernon Street, and Parker Street) and consistently branded parking lot identification signs or art are located at the main entrance to all public lots. All wayfinding signage should be visible to drivers, aesthetically pleasing, and compliant with ADA requirements. Specific deficiencies for each off-street lot are identified in the previous section of this report.

Streetscape Improvements: The *Downtown Connectivity and Streetscape Design Plan* has a purpose to support a vibrant Downtown business environment by creating a more walkable and bicycle friendly environment for residents, employees and visitors. This is done through improving roadways and off-street facilities for pedestrians and bicycles, aesthetic improvements, and lighting, all of which promotes more activity at the street level. This interacts with parking demand by allowing and encouraging longer walking distances between parking and destinations by improving perceived comfort and safety. For more details on recommendations for the Downtown Specific Plan area, see the *Downtown Connectivity and Streetscape Design Plan* available at: www.letstalkvacaville.com/downtown-specific-plan.

New Parking Facility or Parking Consolidation: The primary way of addressing a parking supply shortage is the construction of additional parking facilities, either a surface lot or a multi-level structure. A parking structure can also act as a consolidation strategy, to focus the majority of parking in a single location and reclaim existing lots for other uses. However, this can increase the average walking distance for users unless the associated destinations are concentrated in a small area. The main constraints for this strategy are availability of appropriate land and the cost of a structure. However, in the case of consolidation, some of the cost can be recuperated through lot reclamation and development.

Within Downtown, the majority of public parking is located within the area bounded by Cernon Street to the west, East Monte Vista Avenue to the north, Wilson Street to the east, and Mason Street to the south, as shown in **Figure 5**. A centrally located structure would put all destinations in that area within a half mile walking distance, however destinations south of Mason Street would see an increased walking distance. Construction of a parking structure would come at a significant cost and require a footprint that is currently unavailable on the Main Street frontage further increasing cost to acquire property. In addition, construction of a parking structure would likely cause displacement of businesses that the lot would be designed to serve.

Another strategy would be to remove parking spaces that either have low utilization or are along frontage that could be used to prioritize other modes of travel such as pedestrians and bicycles. As long as there is sufficient available parking to absorb the removed parking and strategies to relocate existing parking demand, the space could be used more efficiently. Merchant Street between Parker Street and Dobbins Street as well as Dobbins Street between Merchant Street and E Monte Vista Avenue were identified as potential locations for bicycle facilities in the *Downtown Connectivity and Streetscape Design Plan* [2], as shown below in **Figure 6**.

[2] Final Streetscape Design Plan Figure 4.4, February 2020

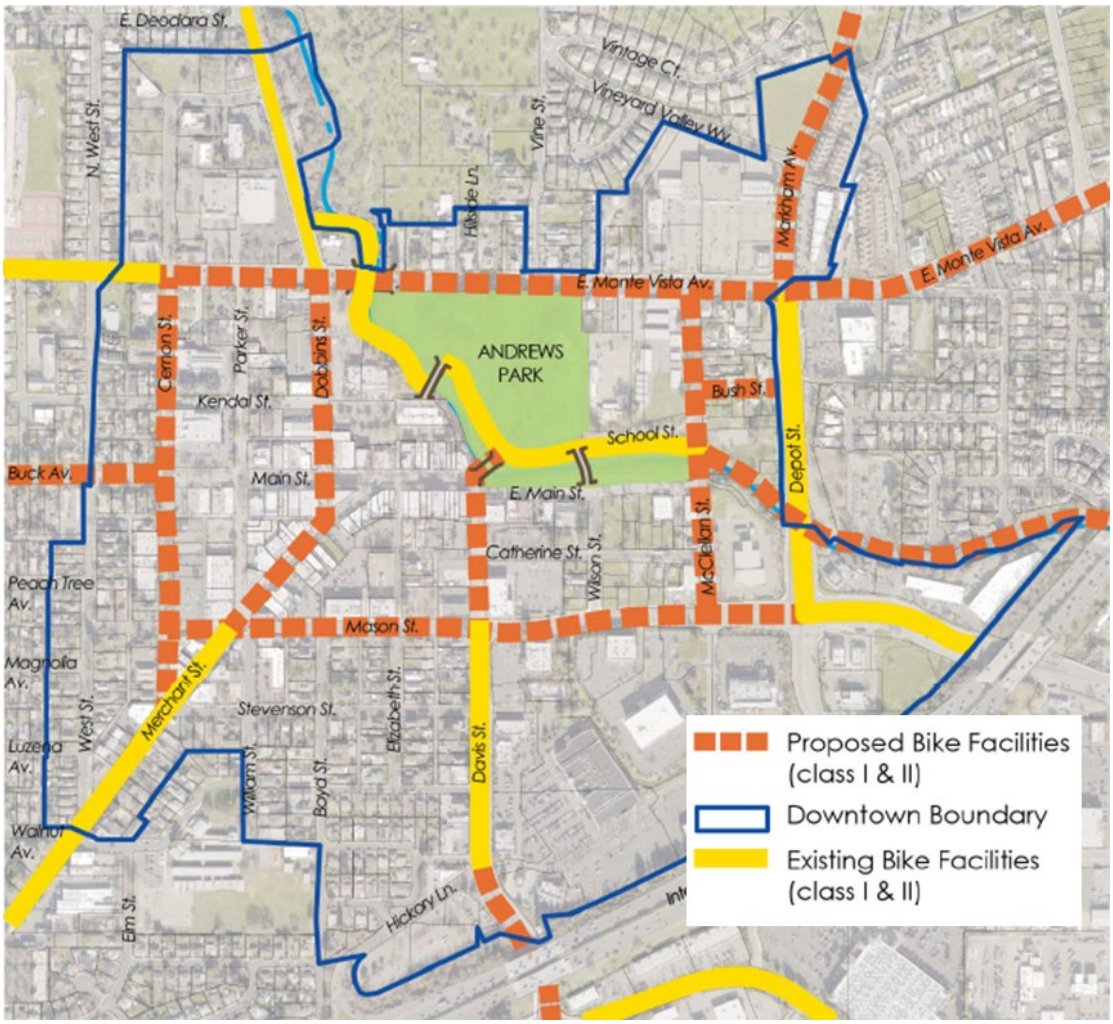


FIGURE 6: STREETSCAPE PLAN PROPOSED BIKE FACILITIES

Removing on-street parking along the identified segments of Merchant Street and Dobbins Street would remove 60 parking spaces, 21 along Dobbins Street and 39 along Merchant Street. Given the observed occupancy, this would only relocate a demand of 51 vehicles. This could easily be absorbed by off-street parking at Lot 2 and Lot 3 for the Dobbins Street demand and with on-street on Parker Street and Lot 6 for the Merchant Street demand.

There is however a valid perception that removal of parking spaces along Main Street without a replacement structure may have negative financial impacts to businesses with frontage along Main Street. This is why any removal of parking must occur in cooperation with increased parking wayfinding and signage, safe connections to nearby parking, and with the clear benefit of an improved pedestrian environment and streetscape.

Lot Amenities: While not required for safe and efficient traffic operations, there are many improvements that can be made to parking lots that will improve community perception of safety and therefore comfort in parking further away and walking increased distances to their destination.

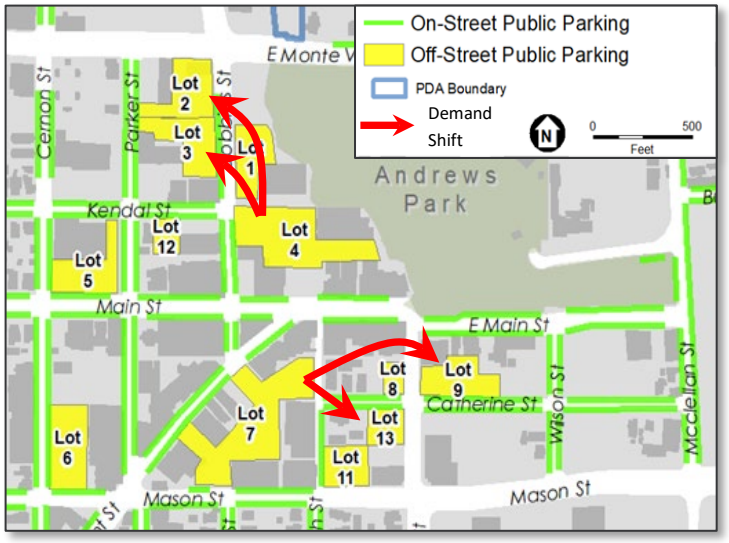
Part of this is consistency with streetscape improvements, however specific lot amenities will support and encourage people to feel safe spending more time further away from their vehicle.

Amenities can be categorized by the amount of effort to install as well as any ongoing operations and maintenance cost. Area maps with current location and common destinations allow for pedestrian scale wayfinding and, along with pedestrian striping across larger lots, only require an initial capital investment and then minimal upkeep. Waste receptacles will assist in keeping areas clean and maintained but will require additional labor to empty and maintain. Pedestrian scale lighting and cameras can be installed in locations where there is expected evening demand or at locations where vehicles may be left for long periods of time unattended, however they have ongoing power requirements. Installation of EVSE (Electric Vehicle Supply Equipment) at public lots or on-street would help attract owners of electric vehicles to the Downtown and could also generate revenue for the City if the City institutes a fee for charging.

OPERATIONAL STRATEGIES

Operational parking strategies involve how parking facilities are shared, enforced, or operated. These strategies often include labor and ongoing costs.

Modified Parking Time Limits: Consistent time limits within a connected parking lot can reduce user confusion and time infractions. Upon review, this does not seem to be a significant issue throughout off-street lots, at least of the lots that have signed time-limits. The only lot that has inconsistent time-limits is Lot 4 located by the Town Square which has a majority of 10-hour time-limits with a few 2-hour spaces behind the bars and restaurants that have frontage on Main Street. This will also result in employees currently parking in this lot to find other locations to park in.



Currently, 60% of all on-street and off-street public parking spaces have no stated time-limit, however occupancy of long-term parking for the Downtown Specific Plan area was observed to peak at 82% in the morning and then continues to decrease over the course of the day. To support conversion of long-term parking to short-term would require a parking lot with significant long-term parking and high occupancy that is close enough to appropriate land use to support short-term parking demand. Currently only Lot 4 meets these criteria as it has high occupancy during the midday and evening hours when short-term parking demand is highest. Lot 4 is a large lot with 50% of parking reserved for 10-hour parking. Additionally, Lots 2 and 3 nearby have consistently low occupancy to absorb any displaced long-term parking.

As long-term parking can always be utilized by short-term parkers, low occupancy long-term lots can be utilized as overflow lots for short-term lots with appropriate signage. Lot 9 and Lot 13 provide a potential opportunity to act as overflow lots for Lot 7.

Curbside Management and Multimodal Vehicle Sharing: As Transportation Network Companies (TNC's) such as Uber and Lyft see increased use, providing reserved loading and unloading areas at key destinations will provide both increased safety as well as avoiding congestion when a pick-up/drop-off occurs in the middle of a busy street. Curb space and public parking spaces also become an opportunity to provide support for alternative modes of transportation through bike or scooter share programs as well as a funding opportunity. Reserved loading and unloading areas could occur along low occupancy segments on Stevenson Street between Merchant Street and Davis Street and Cernon Street north of Mason Street, however it is important to recognize that success of bike and scooter sharing is very dependent on network coverage and hub locations. Implemented hubs would ultimately result from negotiation between the City and the relevant company. Car sharing through companies, like ZipCar or Gig, could also be used to monetize spaces in underutilized lots.

While Main Street represents a high demand location that would be ideal for drop-off/pick-up, the diagonal parking makes it difficult to efficiently reserve curb space for loading without losing multiple parking spaces in an already high-demand area. Instead, using minor streets connected to Main Street may prove the best opportunity. With Dobbins Street already identified as having a potential bike lane from Merchant Street to Monte Vista Avenue and Davis Street already lacking any on-street parking, Parker Street becomes the closest street segment to the center of the Downtown and best opportunity for reserved loading.

The COVID-19 pandemic of spring/ summer 2020 has caused a significant change in how people get goods, services, and food. During the lockdown resulting from the spread of COVID-19, restaurants have been forced to either close completely or modify their services to a strictly delivery- and/or pickup-based system. This has resulted in an increase in people calling in orders for curbside pickup or using food deliveries such as Door Dash, FoodJets, or Postmates. Whether consumers pick up their food curbside or use one of the delivery services, this increases the need for spaces with high turnover and very short-term time limits (30 minutes or less). At the time of writing, restaurants are beginning to open back up for limited eat-in dining, but it remains unclear whether restaurant dining will return to "normal" after the pandemic risk subsides or if curbside pickup and delivery services will remain as predominant sources of eating out. A higher density of parking spots could be converted to pick-up/delivery spaces during shelter-in-place conditions while a lower number could be converted permanently as long as demand supports that usage.

Wayfinding/Real-Time Parking Web or Mobile Application: Multiple companies currently exist that assist users in finding and reserving parking spaces ahead of time, often in areas with parking that tend to fill up or in advance of an event with increased parking demand. In order to monetize the application, this is usually done by paying for parking in advance along with a mark-up or additional fee.

As parking in Vacaville is currently unpaid and occupancy is not high enough to support a need to reserve parking spaces, it is unlikely that a sufficiently large market would exist to support such a partnership.

Focused Parking Enforcement: Improved parking enforcement can be done in one of three ways: increased labor, more efficient targeting of enforcement, and utilization of technological innovation to identify and enforce time-limit infractions. Similar to real-time parking availability solutions, it is unlikely that the demand and lack of paid parking would support utilizing a more technological solution. Depending on resource availability, it could be possible to increase the number of staff enforcing short-term parking time-limits, however it is difficult to effectively enforce short-term parking limits given the short window necessary to manually identify and catch an infraction and the number of short-term parking spaces in the area. Since the main purpose of parking enforcement is to encourage timely turnover of parking spaces to ensure availability, the focus should instead be focused on the locations that have high utilization with a high concentration of short-term spaces such as:

- Lot 4 and Lot 7;
- Cernon Street and Mason Street adjacent to Merchant Street; and
- Main Street and Parker Street.

This allows for a focused effort with a higher level of efficiency. Since parking is not currently paid, there is little incentive to spend resources on enforcing locations with sufficient available parking. To further discourage infractions, escalated citation fines can be implemented targeting repeat offenders.

Posted signage of time limits as identified in the previous section will also help with enforcement, however most of those locations have long-term time-limits.

Shared Parking Agreements: When there is an imbalance of parking utilization including private land use and parking, shared parking agreements allow for combined usage of parking without affecting maximum capacity. This can be done either during the planning/developer application phase to potentially decrease parking requirements or after land use is established to expand public parking capabilities by using private resources. Concerns or barriers to implementation can include questions of liability and insurance coverage, seasonal variation in demand, cost sharing for maintenance and/or operational expenses, clear signage indicating ownership and when parking is publicly available and determining appropriate public policy support.

Given the low overall utilization and the high coverage of public parking in the Downtown Specific Plan area, there are limited opportunities where the increased parking during peak periods would justify the cost and complexity. The US Bank parking lot adjacent to Lot 7 and off of Merchant Street is potentially an opportunity; however, it would only provide capacity during the evening. The private lot across Catherine Street, south of Lot 9, is currently used for shared parking availability in the evenings and weekends; however, it is not signed as such. The three adjacent lots (Lot 8, 9, and 13) only show a combined 40% evening occupancy. Shared parking agreements

could also be used to provide additional parking to support increased traffic for events, without having to build additional parking which would remain vacant the majority of the time.

POLICY STRATEGIES

Policy parking strategies involve a shift in policies to support desired behaviors or rebalance parking/zoning requirements to match changing transportation priorities or observations.

Outdoor Dining Program: With the current pandemic and shelter-in-place orders, the allowance of indoor dining continues to be variable and dependent on state and local guidance. The recently City-implemented Outdoor Dining Program[3] allows for businesses to trade-off the currently low parking usage with outdoor dining platforms that allow for in-person dining while still meeting state and local requirements. Based on interest and ongoing observation of parking usage after shelter-in-place mandates are lifted, the program could be made permanent for those businesses willing to have reduced parking availability for increased dining capacity.

Freight Loading Time Restrictions: Locations with both high parking demand and store frontage can result in conflicts between freight loading/unloading operations and parking capacity. Such conflicts occur when quicker operations, like FedEx and UPS, will double park to avoid looking for parking and can block customers from leaving, and when longer operations, like produce/stock deliveries, take up multiple parking spaces, significantly reducing the available capacity. As an adjacent and similar land use jurisdiction, the City of Davis has restricted loading operations between 12:00 pm and 1:30 pm, which coincides with their highest demand (lunch) period. The Vacaville Downtown Specific Plan could implement similar restrictions, encouraging earlier or later loading operations.

Off-Site Parking Design Standards: To ensure that all future public and private parking facilities provide for improved safety and efficient circulation, the Municipal Zoning Code should include language to require appropriate guidance arrows, allow for safe pedestrian access, minimize curb cuts and access/egress points, and standardize signing consistent with the design aspects discussed in the Capital Strategies section. The *Vacaville Land Use and Development Code* is currently undergoing an update that addresses some of these factors but could benefit from additional sections to address specific needs.

Parking Pricing: Using pricing as a toll for parking demand management is often a complicated approach that needs to balance completing factors. These can include the tradeoff between the desire to promote parking availability in high demand areas while not discouraging overall demand. An overly aggressive or unwelcome pricing strategy can lower demand more than a perceived lack of available parking. The effect on areas that currently do not charge for parking anywhere can be magnified more than an increase to existing parking rates or when other nearby areas with similar land use continue a policy of not charging for parking.

[3] https://www.ci.vacaville.ca.us/business/covid-19-outdoor-dining-program

For the Downtown, while some on-street parking facilities fill up and some off-street lots can be over 90% full, it doesn't consistently occur for more than one time period. Meanwhile many locations remain with low occupancy throughout the day. Therefore, pricing should remain an option only after other strategies have been attempted without success. In this case, improving awareness of available parking and shifting of time limits should be implemented and the effects on distribution of parking demand observed before any parking pricing strategies are studied or attempted.

Reduced Infill Parking Requirements: In higher density locations where land tends to be more expensive and visitors often have more than one destination, minimum parking requirements become an impediment to future development instead of ensuring availability of parking. The *Vacaville Land Use and Development Code* is currently undergoing an update that addresses joint use/shared parking and nearby public parking but could benefit from additional clarifications. **Table 4** provides a summary of parking requirements for several cities which have recently updated their Downtown Parking Management Plans. Many of the jurisdictions allow for in-lieu payments and shared (joint-use) parking agreements, however they do not allow for a reduction of required parking despite any shared use. Many also provide reduced parking requirements for Downtown development, however the implementation and even base units used to calculate parking requirements are different for each jurisdiction.

TABLE 4: ZONING CODE PARKING REQUIREMENTS CASE STUDIES

CITY	OFF-STREET PARKING REQUIREMENTS	DOWNTOWN-SPECIFIC PARKING REQUIREMENTS	PARKING REDUCTIONS
BERKELEY, CA	Between two and four (five for food service) spaces per 1,000 sq. ft. of the commercial floor area and located within 300 ft of the structure or use it is intended to serve. Joint-use parking can increase this distance to 800 ft.	Minimum lowered to 1.5 spaces per 1,000 sq. ft.	Reductions are available for land use located within 1/3 mile from regional transit, ¼ mile from public parking. Unused on-street parking within 500 ft can act as a credit for half the unused spots.
DAVIS, CA	Detailed range of parking requirements. In-lieu payments are acceptable on a per-spot basis in some situations, paying into a fund to acquire or develop public parking. Joint-use parking still requires full combined requirement.	Restaurant: shift from parking every 3 seats to every 250 sq. ft. Retail: shift from parking every 300 sq. ft. to every 500 sq. ft. Office: shift from parking every 400 sq. ft. to every 500 sq. ft.	Parking is not required in commercial-service districts if within a parking district of ten or more parcels.
SAN LEANDRO, CA	Detailed range of parking requirements. In-lieu payments are acceptable on a per-spot basis in some situations, paying	None	None

CITY	OFF-STREET PARKING REQUIREMENTS	DOWNTOWN-SPECIFIC PARKING REQUIREMENTS	PARKING REDUCTIONS
	into a fund to acquire or develop public parking. Joint-use parking still requires full combined requirement.		
SAN MATEO, CA	Detailed range of parking requirements off-site allowed within 500 ft of the structure or use it is intended to serve. Joint-use parking still requires full combined requirement.	Restaurant: shift from parking every 50/80 sq. ft. before/after 4000 sq. ft. to 3.9 spaces every 1,000 sq. ft. Retail: shift from parking every 300 sq. ft. to 1.9 spaces every 1,000 sq. ft. Office (general): shift from parking every 335 sq. ft. to 2.6 spaces every 1,000 sq. ft.	None

Ongoing Monitoring and Evaluation of Parking: While this study represents a snapshot in time, parking trends and usage will continue to change and evolve in the Downtown, especially with the implementation of the recommended strategies proposed in this report. Regular monitoring of parking demand and occupancy will also allow for a data-driven basis for any future revisions or recommendations as well as highlighting future need for additional parking through shared-use agreements or construction of new facilities. Future monitoring of parking conditions was previously highlighted as a recommendation from a 2010 staff report[4] to follow revised parking time limits with data collection a year after implementation.

[4] Adoption and Implementation the 2008-09 Downtown Parking Study, Staff Report, Agenda Item No. 9A, May 25, 2010

RECOMMENDATIONS

Based upon the previous list of strategies presented and applicability to Downtown, the following recommendations of capital, operational, and policy strategies are presented.

CAPITAL RECOMMENDATIONS

The following capital improvements are recommended:

IMPROVED CONFIGURATION OF EXISTING LOTS

- Lot 4 - Add two-directional arrows along all travel lanes. Better define the area to safely turn around at the dead end.
- Lot 5 - Convert to one-directional travel (counter-clockwise) with diagonal parking and a travel lane aligned with the access/egress points. Convert to access only on Parker Street and egress only on Cernon Street with a No-Access sign. Convert to two rows of parking spaces in the middle of the lot. Ultimately redesign the lot to utilize only three of the curb cuts and provide for circulation within the lot without requiring maneuvering on Cernon Street.
- Lot 6 - Convert remaining sections to one-directional with diagonal parking and alternating directions.
- Lot 9 - Add stop bar to main exit on Catherine Street.
- Lot 12 - Relocate the accessible spot or provide an appropriate loading zone.
- Lot 13 - Convert to one directional travel (counter-clockwise) with diagonal parking and arrows. Add an egress point on Davis Street with a No-Access sign.
- Hickory Lot - Add two-directional arrows along all travel lanes.

IMPROVED WAYFINDING AND SIGNAGE

- Add Vacaville-branded parking wayfinding signs from primary entrances to the Downtown area (Mason Street, Depot Street, Monte Vista Avenue, Cernon Street, and Parker Street) to off-street parking lots.
- Add Vacaville-branded public parking identification signs and/or public art at least at the main entrance of all public lots, ideally at all access points.
- Provide lot time-limit information, with sufficient font size to be readable from a passing car, at lot entrances if the entire lot has a consistent time-limit. Also provide frequently spaced time-limit signs throughout the parking lot and specifically sign any space that has a time-limit inconsistent with the majority of spaces in the lot.
- Lot 5 - Add a No-Access sign to the exit-only curb cut on Kendal Street.
- Lot 6 - Add a No-Access sign to the exit-only curb cut on Cernon Street.

STREETSCAPE IMPROVEMENTS

- Improvements consistent with the Implementation Chapter of the Vacaville *Downtown Connectivity and Streetscape Design Plan*.

PARKING CONSOLIDATION

The cross sections of Merchant Street (from Parker Street to Dobbins Street) and Dobbins Street (from Merchant Street to East Monte Vista Avenue) do not provide enough room for a parking lane and a bicycle lane. As a result, parking will need to be removed to allow for the bicycle lane.

- Remove on-street parking along Merchant Street from Mason Street to Dobbins Street.
- Remove parking along Dobbins Street from Mason Street to Monte Vista Avenue.
- Provide striped pedestrian walkways and pedestrian-scale wayfinding through Lot 4 to Main Street.

LOT AMENITIES

- Install pedestrian-scale lot lighting and striped pedestrian walkways at Lot 4 and Lot 7.
- Increase planting of shade trees within the lot (as compared to only along the sidewalk) at large exposed lots, such as Lot 3, Lot 5, Lot 6, Lot 7, and Lot 8.
- Install cameras at the Hickory Lot where long-term parking could occur.
- Increase waste receptacles at all off-street lots.
- Install area maps with current location and common destinations at Dobbins Street & Kendall Street and at Davis Street & Catherine Street.
- Install Electric Vehicle Supply Equipment (EVSE) at lower utilization lots, such as Lots 2, 3 and 9.

OPERATIONAL RECOMMENDATIONS

The following operational improvements are recommended:

MODIFIED PARKING TIME LIMITS

- Maintain 10 parking spaces adjacent to the library and McBride Senior Center, and convert the remaining 10-hour parking spaces in Lot 4 to 4-hour parking spaces.
- Provide signage to direct overflow parking for Lot 4 to Lots 2 and 3.
- Provide signage to direct overflow parking for Lot 7 to Lots 9 and 13.

CURBSIDE MANAGEMENT AND MULTIMODAL VEHICLE SHARING

- Repurpose two-spaces of on-street parking on Parker Street near Main Street as TNC pick-up/drop-off zones.

- Coordinate with car-sharing programs to lease spots in underutilized long-term lots such as Lots 2, 3, and 9.
- Repurpose underutilized long-term, on-street parking spaces to support bike- and scooter-share programs. Possible segments include Stevenson Street between Merchant Street and Williams Street and Cernon Street between Main Street and Mason Street; however specific locations may depend on negotiation with the companies providing the vehicles and require a certain number of hubs throughout the City.
- During COVID-19 affected operations, temporarily convert two spaces per block on each side of Main Street between Parker Street and Davis Street to delivery/pick-up loading spaces with 30-minute time limits. Permanently leave one space per block as delivery/pick-up loading spaces with 30-minute time limits with some distinguishing paint or markings.

FOCUSED PARKING ENFORCEMENT

- Focus time-limit enforcement on the following high utilization and high-density locations:
  - On-Street – Cernon Street, Dobbins Street, Main Street, Merchant Street, and Parker Street.
  - Off-Street – Lot 4 and Lot 7.

SHARED PARKING AGREEMENTS

- Discuss potential shared parking agreement with US Bank adjacent to Lot 7 for evening public-available parking with installation of signage to define parking allowances/restrictions.
- Revise shared parking agreement with First Northern Bank adjacent to Lots 8, 9, and 13 to include installation and upkeep of signage that defines parking allowances/restrictions.
- Explore opportunities to share underutilized private parking in high demand locations through outreach events and stakeholder engagement.

A map of the combined capital and operational recommendations is shown in **Figure 7**.

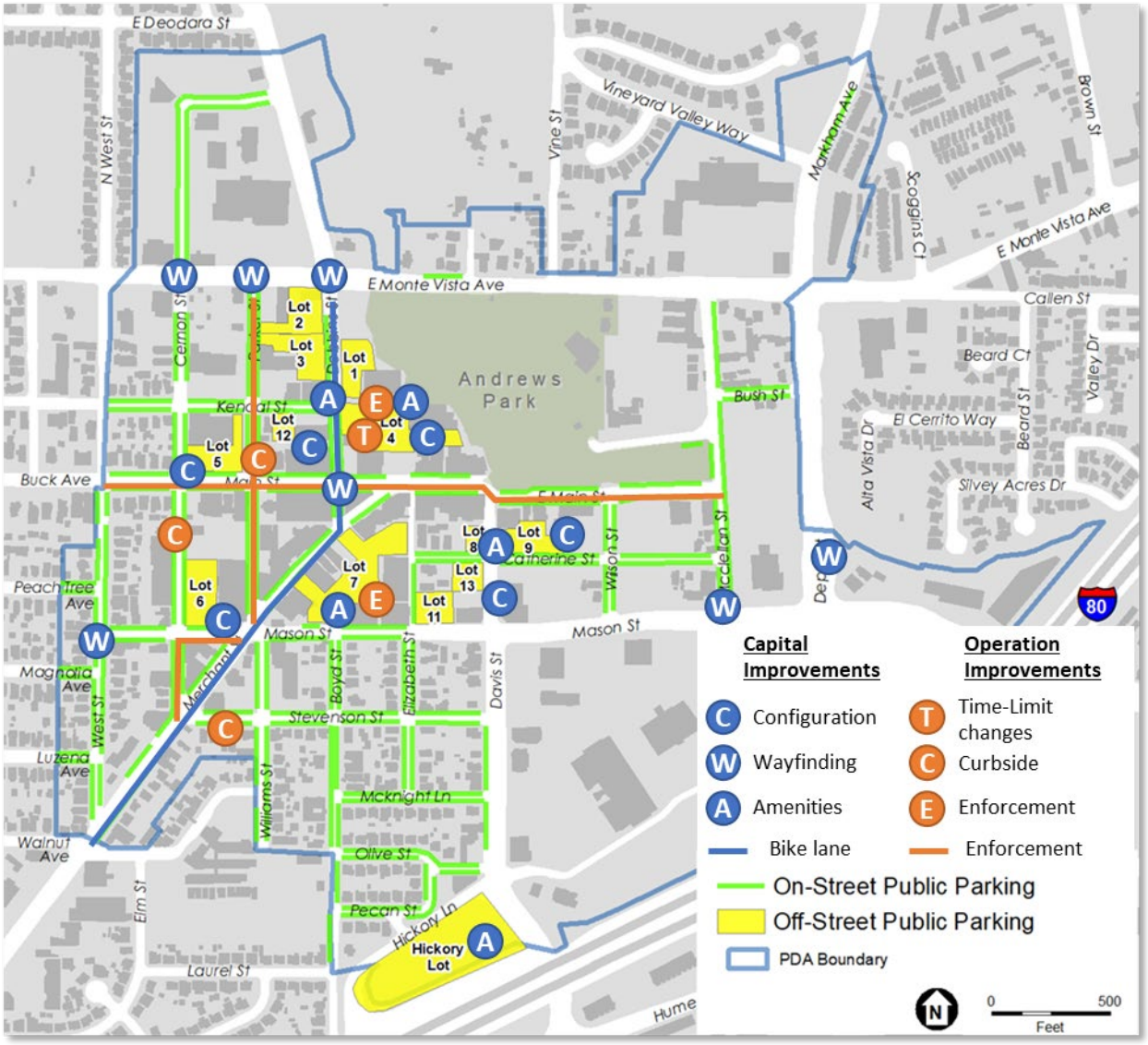


FIGURE 7: IMPROVEMENT LOCATIONS

POLICY RECOMMENDATIONS

The Specific Plan currently in development has a stated goal of managing parking resources in Downtown to promote a "Park-once-and-walk" environment. This is supported by the following proposed policies:

> **Park Once.** Encourage an environment where employees and customers can park in one location and visit multiple Downtown destinations via high-quality pedestrian pathways, including well lighted routes from public parking lots to major commercial streets and locations within the Downtown.
>
> **Parking Management and Distribution.** Provide thoughtfully distributed parking supply based upon quantified need that includes both on-street and off-street options, both publicly and privately owned.
>
> **Curbside Management.** Balance on-street parking with other curbside mobility and business service needs.

While capital and operational improvements will assist in achieving the goal, this should be backed up with policies that support ongoing implementation, land use that brings more visitors and jobs Downtown, and an efficient use of public right-of-way. The following policy changes are recommended.

OUTDOOR DINING PROGRAM

The recently City-approved Outdoor Dining Program[5] that allows for replacement of parking with outdoor dining space should be further advertised. Given a successful pilot during the shelter-in-place period, consider converting this to a permanent program to allow for ongoing outside dining in exchange for reduced parking availability for interested businesses, such as restaurants and cafes along Merchant and Main Street.

FREIGHT LOADING TIME RESTRICTIONS

Prohibit on-street and public parking lot loading operations between 12:00 pm and 1:30 pm within the Vacaville Downtown Specific Plan area without applying for an exemption based on parking density or surrounding land use.

OFF-SITE PARKING DESIGN STANDARDS

- The *Vacaville Land Use and Development Code Update*, currently under development, should update **Chapter 14.09.200.080 Parking Area Design Standards; Section B. Pedestrian Access** to require striped pedestrian crossing within an off-street lot if any parking space requires crossing more than two travel aisles to reach any public sidewalk.
- The *Vacaville Land Use and Development Code Update*, currently under development, should update **Chapter 14.09.200.080 Parking Area Design Standards; Section D. Striping,**

[5] https://www.ci.vacaville.ca.us/business/covid-19-outdoor-dining-program

Marking, and Painting to explicitly require the use of directional guidance arrows to define one- and two-way aisles.

- The *Vacaville Land Use and Development Code Update*, currently under development, should update **Chapter 14.09.200.080 Parking Area Design Standards; Section E. Curbing** or create a new section for curb cuts to set a maximum of two access points and two egress points.
- The *Vacaville Land Use and Development Code Update*, currently under development, should update **Chapter 14.09.200.080 Parking Area Design Standards; Section L. Maintenance** to include a required number of waste receptacles based on the size of the parking lot.
- The *Vacaville Land Use and Development Code Update*, currently under development, should update **Chapter 14.09.200.080 Parking Area Design Standards** to create a new section for wayfinding and parking signage to set a standard consistent with California Manual for Uniform Traffic Control Devices (CA MUTCD) and the Streetscape Plan for branded signing of directions to and locations available for Public Parking.

REDUCED INFILL PARKING REQUIREMENTS

- Provide reduced infill parking requirements for the Downtown Vacaville Specific Plan area, similar to nearby and comparable jurisdictions. Specific recommendations should follow a focused demand and development potential study to ensure that reduced requirements do not overwhelm a currently underutilized parking network.
- The *Vacaville Land Use and Development Code Update*, currently under development, should update **Chapter 14.09.200.050 Parking Reductions; Section A. Joint Use of Parking Facilities** to allow for retroactive consolidation and shared use of parking under the new code.
    - One example of an opportunity for this could be the currently separated and underutilized private and public parking bounded by Monte Vista Avenue to the north, Dobbins Street to the east, Kendal Street to the south, and Cernon Street to the west.
- The *Vacaville Land Use and Development Code Update*, currently under development, should update **Chapter 14.09.200.050 Parking Reductions; Section B. Off-Site Parking** to include exiting occupancy of any on-street parking or off-street parking in the calculation of parking credits against the required parking to ensure that spaces are not double counted.

ONGOING PARKING MONITORING AND EVALUATION OF PARKING

- Collect annual parking occupancy and turnover data.

RELEVANCE TO DESIGN REQUIREMENTS AND PERCEIVED ISSUES

The proposed recommendations meet both the requirements of safe operation and circulation as well as the needs identified during outreach. A summary of how each recommendation applies is shown below in **Table 5**. The set of recommendations included in this report cover all of the identified needs including design, improved safety, and outreach-based needs.

TABLE 5: APPLICABILITY OF RECOMMENDATIONS TO PARKING NEEDS

PARKING STRATEGY	SAFE CIRCULATION	PUBLIC PERCEPTION	PARKING AWARENESS	SHORT-TERM CUSTOMER PARKING	IMPROVED ENFORCEMENT	LONG-TERM EMPLOYEE PARKING	SAFETY AND USER FRIENDLINESS
IMPROVED CONFIGURATION OF EXISTING LOTS	✓	✓					✓
IMPROVED WAYFINDING AND SIGNAGE		✓	✓	✓			✓
STREETSCAPE IMPROVEMENTS		✓				✓	✓
PARKING CONSOLIDATION	✓						✓
LOT AMENITIES		✓	✓				
MODIFIED PARKING TIME-LIMITS		✓		✓		✓	
CURBSIDE MANAGEMENT AND MULTIMODAL VEHICLE SHARING	✓	✓					✓
FOCUSED PARKING ENFORCEMENT				✓	✓		
SHARED PARKING AGREEMENTS				✓			
OUTDOOR DINING PROGRAM		✓					✓
FREIGHT LOADING TIME RESTRICTIONS	✓			✓	✓		✓
OFF-SITE PARKING DESIGN STANDARDS	✓	✓	✓	✓			✓
REDUCED INFILL PARKING REQUIREMENTS		✓					✓
ONGOING MONITORING AND EVALUATION OF PARKING	✓			✓	✓	✓	

APPENDIX – EXISTING CONDITIONS REPORT

EXISTING CONDITIONS
TRANSPORTATION AND CIRCULATION

CITY OF VACAVILLE
DOWNTOWN PRIORITY DEVELOPMENT AREA SPECIFIC PLAN

SEPTEMBER 2019

PREPARED FOR:

CITY OF VACAVILLE AND ESA

DKS

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INTRODUCTION

In 2013, Downtown Vacaville was established as a priority development area (PDA) in the Bay Area Metropolitan Transportation Commission's Plan Bay Area SB 375 Sustainable Communities Strategy and 2040 Regional Transportation Plan (Plan Bay Area). PDAs are designated where there is the most potential for walkable, transit-oriented, mixed-use residential and retail projects. This wider recognition of the Downtown's potential mirror's the City's own desires for the Downtown. Within the City's 2015 General Plan, the City recognizes the importance of revitalizing and expanding the Downtown, achieving economic vibrancy, providing design elements that mark points of entry, and protecting the creeks and associated riparian corridors as a valuable visual asset.

The Streetscape Plan and the Specific Plan will identify opportunities to coordinate active transportation and transit improvements with infill and revitalization efforts in order to create a vibrant Downtown that is transit-oriented, bicycle and pedestrian friendly with a broad range of public and private uses.

The purpose of this report is to document existing transportation and circulation facilities and amenities within the PDA. To that effect, this report focuses on describing the existing environment including the following facilities within (and adjacent to) the PDA:

- Roadway Facilities and Usage
- Parking Facilities and Usage
- Pedestrian Facilities and Usage
- Bicycle Facilities and Usage
- Transit Routes and Ridership

SUMMARY OF FINDINGS

The following findings and recommendations summarize the results of analysis conducted in the spring and summer of 2019.

The level of service analysis shows all study intersections within the PDA operate acceptably in both the AM and PM peak hours, with the exception of Bella Vista Road/Davis Street and Hume Way/Davis Court intersection, which operates unacceptably with LOS F in both peak hours. This level of service is caused mainly by the "split phasing" of the north-south vehicles, where left turning vehicles cannot make their movements at the same time, due to shared through and turn lanes. Removal of the split phasing would likely improve the level of service at this intersection, but could require some level of redesign of the intersection itself.

Volumes on roadways peak at approximately 8:00 in the morning and approximately 3:00 in the afternoon, although a number of roadways in the downtown core have their AM peak hour during

the early lunch period at 11:00 in the morning. This helps show that this area is not a traditional residential or employment center and has significant volume peaks during the lunch hour.

While some parking lots and roadways with on-street parking are full or near full at mid-day in general, the parking stock in the PDA appears to be adequate for the observed existing demand. Some (but not most) of the parking facilities (on-street or off-street) are at or near capacity during more than one of the three time periods surveyed, however very few facilities are at or near capacity all three counted time periods. Installing 2-hour meters along portions of select roadways to exclusively operate at mid-day may encourage better distribution of parking occupancy throughout the PDA during that time.

Pedestrian facilities in Downtown Vacaville are plentiful and well connected, but bicycle facilities are severely lacking. The area of the PDA bounded by East Monte Vista, Dobbins, Mason, and Depot is completely lacking in on-street bicycle facilities. Connectivity through the central part of the PDA would be well served by additional bicycle facilities, both on-street and off-street. Pedestrian and bicycle volumes tend to be higher during the AM peak hours in the northwest portion of the PDA near the high school and higher the other parts of the day in other portions of the PDA due to jobs and housing.

Comparing bicycle and pedestrian counts in the PDA shows that there is nearly five times the number of pedestrians to cyclists. To improve walkability the City has been improving sidewalks and curb-ramps at crosswalks. The same cannot be said for bicycle facilities where the only currently planned improvement is to connect the bicycle path from Andrews Park to the existing Ulatis Creek bike path east of I-80. Bicycle utilization could improve with the implementation of properly signed bicycle routes on select Downtown Vacaville roadways. Any future road diet or roadway redesign projects in the PDA will need to address bicycle connectivity deficiencies in the immediate area.

Transit needs in the PDA area appear to be served well by City Coach Routes 2, 5 and 6. The routes connect the PDA with areas to the north of I-80, however there may be room for improvement for access to areas south of the interstate. As one might expect, buses are at their highest occupancy after stopping at the Transit Plaza at the corner of East Monte Vista Avenue and Cernon Street, however a more vibrant and active Transit Plaza could help promote transit within the PDA.

EXISTING PDA ROADWAY SYSTEM

STUDY ROADWAYS

The Downtown Vacaville PDA contains a number of major roadways (arterials and major collectors) shown in **Figure 1** that serve as connections between the Downtown and other parts of the City, as well as local streets that serve smaller numbers of homes and/ or businesses within the PDA.

The following arterial and collector streets form the backbone of the transportation system downtown and provide access both within and through the PDA.

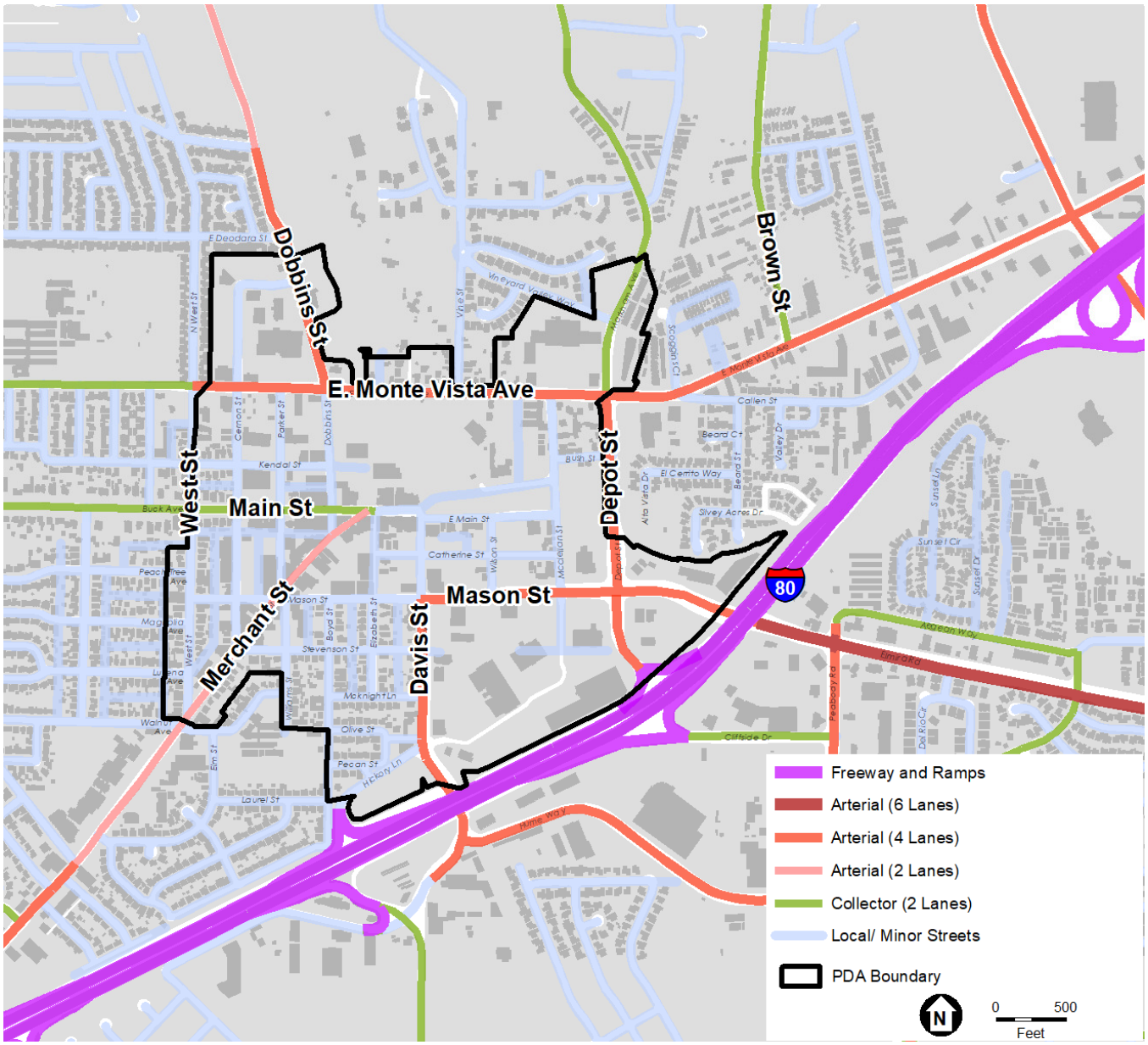

FIGURE 1: PDA BOUNDARY AND STUDY ROADWAYS

East Monte Vista Avenue

East Monte Vista Avenue is a major east-west roadway that provides access between the PDA and areas both to the east and west of the plan area. Within the PDA, East Monte Vista Avenue is a four-lane major arterial roadway with a mix of residential and non-residential uses. East Monte Vista Avenue currently has signalized intersections at Cernon Street, Dobbins Street, and Depot

Street, and has two-way stop control (no stopping on East Monte Vista) at West Street, Parker Street, Hillside Lane, Vine Street, and McClellan Street within the PDA.

Within the PDA, sidewalks are present on both sides are the road. Furthermore, bike lanes are present west of Cernon Street and are proposed for the remainder of the corridor. Also, City Coach Routes 2, 5 and 6 utilize East Monte Vista Avenue to access the Transit Plaza at the corner of East Monte Vista Avenue and Cernon Street.

West of West Street (the western boundary of the PDA) West Monte Vista Avenue is a two lane collector roadway with Vacaville High School on the north side and residential properties on the south side. Between West Street and Cernon Street, East Monte Vista Avenue widens out to two lanes eastbound and has one lane westbound. There are left turn pockets in each direction at West Street and Cernon Street.

Main Street

Main Street is a major east-west roadway that provides access between the PDA and the neighborhood west of the plan area as Buck Avenue. This roadway primarily serves commercial land uses and features exclusively all-way stop controlled intersections at West Street, Cernon Street, Parker Street, Dobbins Street, Merchant Street and Davis Street. East of Davis Street, but still within the PDA, Main Street becomes East Main Street where the intersections at Wilson Street and McClellan Street are all-way stop controlled.

Sidewalks and side-street parking are present on both sides of the street, but there are no bike facilities. Also, there are no City Coach bus routes that use Main Street.

West of the PDA, Main Street becomes Buck Avenue, a two-lane local street with parking on both sides of the street. Intersecting roadways are primarily side-street stop controlled.

Mason Street

Mason Street is a major east-west roadway that provides access between the PDA and the area to the east of the plan area. Mason Street begins on the western boundary of the PDA as a two-lane roadway that serves a mix of residential and non-residential uses. East of Merchant Street, Mason street is typically used to access commercial uses are to north of the street and mixed residential and non-residential uses are to the south. Between Merchant Street and Davis Street, Mason Street widens to gain a second westbound travel lane. The roadway gains an additional eastbound lane after Davis Street, becoming a four-lane roadway with commercial uses on both sides.

Intersections at Merchant Street, Williams Street, Davis Street, McClellan Street, and Depot Street are controlled by signals while Cernon Street is all-way stop controlled and West Street, Boyd Street, Elizabeth Street, and Wison Street are side-street stop controlled.

Mason Street is very walkable within the PDA. It is lined with sidewalks and nearly all intersections have crosswalks. There are no bike facilities on Mason Street, though bike lanes that are on Merchant Street and Davis Street end at Mason Street. City Coach Route 2 serves the corridor including stops on either side of the street.

Beyond the eastern PDA boundary, Mason Street becomes a six-lane roadway controlled mainly by signals and side street stops. Sidewalks and bike lanes continue to line the roadway on each side.

Davis Street

Davis Street is a major north-south roadway that provides access between the PDA and the area to the south of the plan area. Davis Street begins at Main Street as a two-lane roadway that serves non-residential land uses and is controlled by all-way stops at Main Street and Catherine Street and a signal at Mason Street. South of Mason Street, Davis Street is a four-lane roadway with a two-way left turn lane controlled by a signal at Hickory Lane/Porter Way and side-street stops at Stevenson Street and McKnight Lane.

The extent of Davis Street within the PDA is lined with sidewalks and all intersections have crosswalks. There are bike lanes in both directions along Davis Street between Hickory Lane and Mason Street. Davis Street also has Route 2 bus station on both sides of the roadway and directly accesses the City Coach park-and-ride Hickory Lot at the Route 2 end of line.

South of the PDA, Davis Street continues as a four-lane roadway with signals and side street stop controls at intersections and pedestrian facilities throughout.

Depot Street

Depot Street is a major north-south roadway that provides access between the PDA and the area to the north (as Markham Avenue) and access to I-80 south of the plan area. Within the PDA, Depot Street is a four-lane roadway that serves residential and non-residential uses. Intersections at E Monte Vista Avenue and Mason Street are signalized while Bush Street is side-street stop controlled.

Sidewalks line the length of the Depot Street and crosswalks are found in most, if not all directions at each intersection. Bike lanes are also present on both sides of Depot Street within the PDA. City Coach Route 6 uses Depot Street and Routes 2 and 6 serve and stop along Markham Avenue north of East Monte Vista Avenue. Markham Avenue is a two-lane roadway which accesses a residential area.

Merchant Street

Merchant Street is a major roadway that provides access between the PDA and the area to the southwest of the plan area. Merchant Street begins at Main Street as a two-lane roadway and adds a two-way left turn lane and side street parking on both sides of the street south of Mason Street

until Lover's Lane outside of the PDA. Intersections at Mason Street and Walnut Avenue are signalized while Main Street, Dobbins Street, and Stevenson Street are all-way stop controlled.

The entirety of Merchant Street is lined with sidewalks on both sides of the street and all intersections are fully equipped with crosswalks. South of Mason Street, the roadway includes a bike lane in the northeast bound direction. City Coach Route 5 also serves Merchant Street, including stops on both sides of the roadway, and service to the Mc Bride Senior Center.

South Lover's Lane, Merchant Street (also identified as Lincoln Highway) is a four-lane roadway with a two-way left turn lane. Sidewalks continue on both sides of the road while bicycles are permitted to use the outermost lanes.

Other Roadways

There are several additional minor collector and local roadways within the PDA, including the following:

- North-South Roadways
  - West Street
  - Cernon Street
  - Parker Street/William Street
  - Dobbins Street
  - Boyd Street
  - Elizabeth Street
  - Wilson Street
  - McClellan Street
- East-West Roadways
  - Kendal Street
  - Catherine Street
  - Stevenson Street
  - McKnight Lane
  - Olive Street
  - Pecan Street

EXISTING TRAFFIC VOLUMES ON PDA ROADWAY SEGMENTS

Daily (24 hour) traffic counts on study roadways were conducted by a reputable data collection firm during May 2019. All counts were conducted on a typical weekday (Tuesday-Thursday) with school in session. Volumes were recorded by 15 minute period and summarized by hour.

Table 1 shows a summary of daily traffic volumes by location as well as the highest hourly volume between midnight and noon (AM) and the highest hourly volume between noon and midnight (PM).

The table shows that daily volumes range from a high of just over 22,400 daily vehicles on East Monte Vista Avenue west of Depot Street to a low of just over 1,100 daily vehicles on Mason Street east of West Street.

The table shows that of the 11 roadway segments, 7 have their highest AM hourly volume between 8:00am and 9:00am (during the typical AM peak commute hours), while 4 others have their highest AM hourly volume between 11:00am and noon (during the typical lunch hours). The table also shows that of the 11 roadway segments, 9 have their highest PM hourly volumes between 3:00pm and 4:00pm (slightly earlier than the typical PM peak commute hours) and 2 have their highest PM hourly volume between 4:00pm and 5:00pm (during the typical PM peak commute hours). The counts show that, at least for the roadways counted, a number of roadways have their highest AM volumes midday as opposed to during the typical peak commute hours and most roadways have their highest PM volumes somewhat earlier than the typical PM peak commute hours. These numbers show that Downtown Vacaville does not necessarily follow "typical" patterns for AM and PM peak travel.

The traffic count data also shows that in general, PM peak hour volumes are slightly higher than AM peak hour volumes, as well as the fact that the 12 AM hours (midnight to noon) make up approximately 35% of daily volume while the 12 PM hours (noon to midnight) make up approximately 65% of daily volume for the study roadway segments. **Figure 2** shows the daily distribution of observed traffic volumes at each study segment location.

TABLE 1: EXISTING TRAFFIC VOLUMES AND PEAK HOURS

MAP ID	LOCATION	DAILY VOLUME	AM PEAK HOUR	AM PEAK VOLUME	PM PEAK HOUR[B]	PM PEAK VOLUME
1	E. MONTE VISTA AVENUE WEST OF DEPOT STREET	22,412	8:00am	1,943	4:00pm	1,829
2	E. MONTE VISTA AVENUE WEST OF WEST STREET	8,963	8:00am	1,032	3:00pm	919
3	MAIN STREET EAST OF WEST STREET	3,422	8:00am	360	3:00pm	407
4	MAIN STREET WEST OF MCCLELLAN STREET	1,544	11:00am	137	4:00pm	142

MAP ID	LOCATION	DAILY VOLUME	AM PEAK HOUR	AM PEAK VOLUME	PM PEAK HOUR[B]	PM PEAK VOLUME
5	MASON STREET WEST OF DEPOT STREET	12,907	11:00am	1,013	3:00pm	1,190
6	MASON STREET EAST OF DAVIS STREET	12,438	11:00am	958	3:00pm	1,150
7	MASON STREET EAST OF WEST STREET	1,127	8:00am	86	3:00pm	121
8	DAVIS STREET SOUTH OF MASON STREET	10,333	8:00am	768	3:00pm	936
9	DAVIS STREET SOUTH OF HICKORY LANE	19,589	8:00am	1,365	3:00pm	1,624
10	MERCHANT STREET NORTH OF WEST STREEET	9,853	11:00am	727	3:00pm	911
11	DOBBINS STREET NORTH OF E. MONTE VISTA AVENUE	13,064	8:00am	1,145	3:00pm	1,181

Note: AM Peak Hour is highest hourly volume between midnight and noon, PM Peak Hour is highest hourly volume between noon and midnight

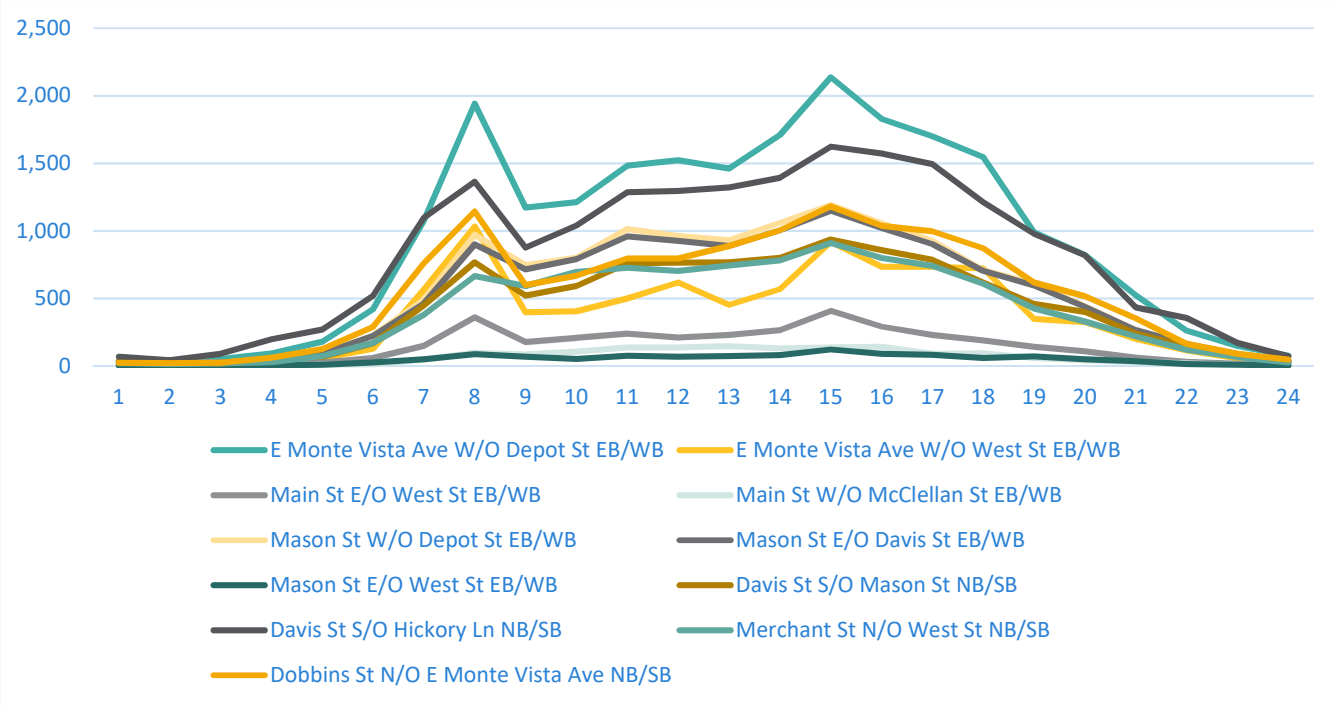

FIGURE 2: DAILY DISTRIBUTION OF SEGMENT TRAFFIC VOLUMES

Figure 3 shows existing daily volumes and count locations selected throughout the PDA.

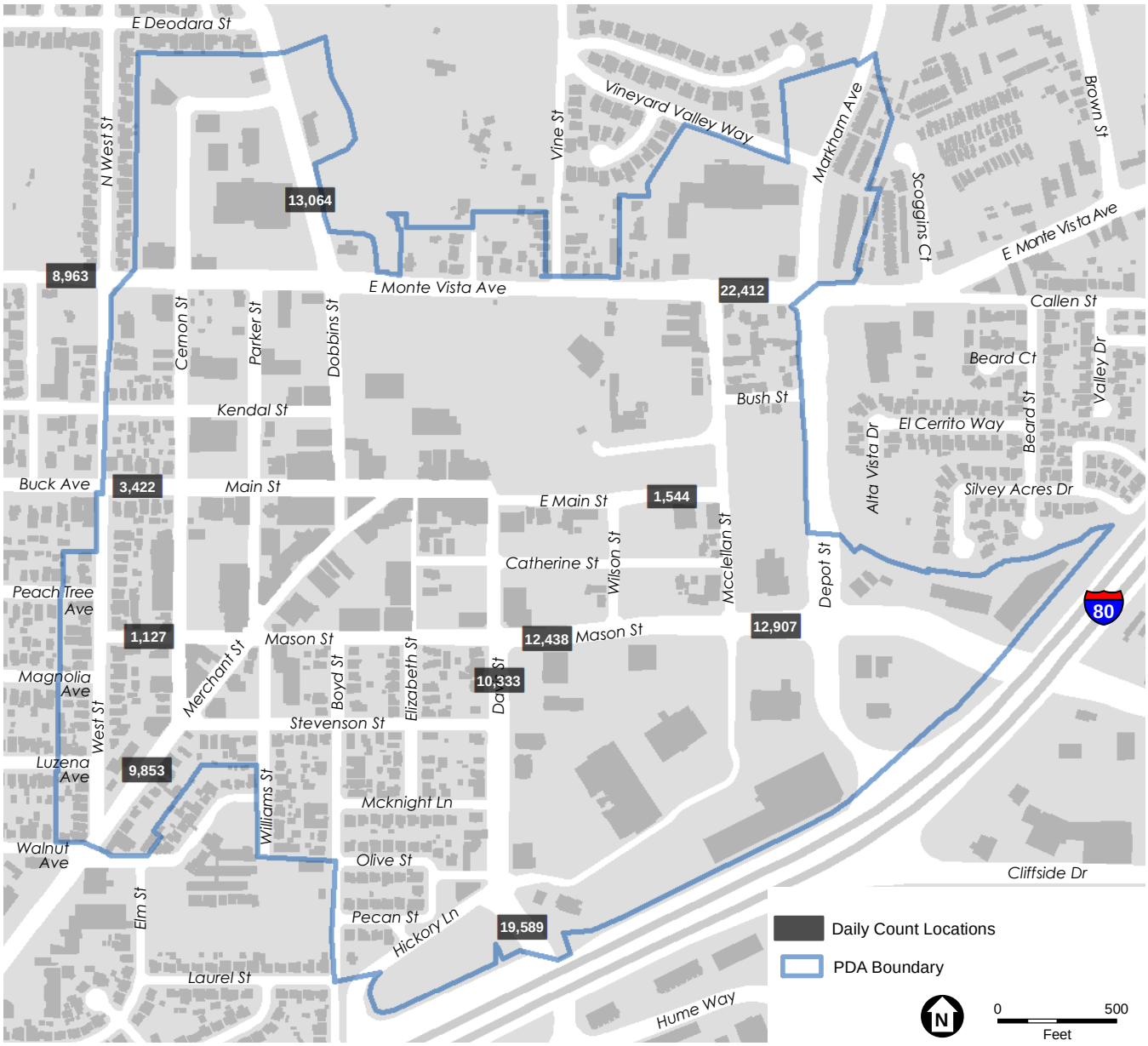

FIGURE 3: EXISTING DAILY VOLUMES

EXISTING TRAVEL SPEEDS ON PDA ROADWAY SEGMENTS

Daily (24 hour) speed surveys on study roadways were conducted simultaneously with the volume data during May 2019. All surveys were conducted on a typical weekday (Tuesday-Thursday) with school in session. Directional speeds were recorded by 15 minute period and summarized by hour. **Table 2** shows a summary of 85th percentile daily traffic speeds by location and also shows the average hourly speed for the AM and PM peak hours as described in the preceding section.

The table also shows posted speed limits (where available) for each roadway segment. Where there are no speed limit signs at the specific roadway segment, the closest speed limit sign on the same street is assumed. For lower capacity streets with residential frontage and no speed limit sign, a speed limit of 25 mph is assumed.

The table shows that 85th percentile daily speeds equal or exceed posted (or assumed) speed limits at 8 of the 100 study roadway segments and are lower at three locations. Some of the locations exceed the speed limit by 5 mph or more. Peak hour average speeds (for at least one direction of travel) equal or exceed speed limits at 3 locations during the AM peak and 5 locations during the PM peak.

The speed survey results show that, while existing travel speeds are not excessively high compared to posted speed limits, a number of locations have 85th percentile daily speeds and/ or peak hour average speeds that exceed posted speed limits and thus may pose safety issues for pedestrians and cyclists in the PDA.

TABLE 2: EXISTING TRAVEL SPEEDS ON PDA ROADWAY SEGMENTS

MAP ID	LOCATION	POSTED SPEED LIMIT	85TH PERCENTILE DAILY SPEED	AVERAGE AM PEAK HOUR SPEED	AVERAGE PM PEAK HOUR SPEED
1	E. MONTE VISTA AVENUE WEST OF DEPOT STREET	35 mph	**35 mph (EB)** **37 mph (WB)**	27 mph (EB) 32 mph (WB)	27 mph (EB) 32 mph (WB)
2	E. MONTE VISTA AVENUE WEST OF WEST STREET	25 mph	**33 mph (EB)** **32 mph (WB)**	**26 mph (EB)** 24 mph (WB)	**26 mph (EB)** 23 mph (WB)
3	MAIN STREET EAST OF WEST STREET	25 mph*	**25 mph (EB)** 24 mph (WB)	22 mph (EB) 21 mph (WB)	21 mph (EB) 21 mph (WB)
4	MAIN STREET WEST OF MCCLELLAN STREET	25 mph*	22 mph (EB) 19 mph (WB)	15 mph (EB) 14 mph (WB)	18 mph (EB) 14 mph (WB)
5	MASON STREET WEST OF DEPOT STREET	30 mph	**35 mph (EB)** **37 mph (WB)**	29 mph (EB) **31 mph (WB)**	29 mph (EB) **31 mph (WB)**
6	MASON STREET EAST OF DAVIS STREET	30 mph	**38 mph (EB)** **35 mph (WB)**	**33 mph (EB)** 29 mph (WB)	**33 mph (EB)** **30 mph (WB)**

MAP ID	LOCATION	POSTED SPEED LIMIT	85TH PERCENTILE DAILY SPEED	AVERAGE AM PEAK HOUR SPEED	AVERAGE PM PEAK HOUR SPEED
7	MASON STREET EAST OF WEST STREET	25 mph	19 mph (EB) 19 mph (WB)	16 mph (EB) 15 mph (WB)	14 mph (EB) 13 mph (WB)
8	DAVIS STREET SOUTH OF MASON STREET	30 mph	**40 mph (NB)** **33 mph (SB)**	35 mph (NB) 28 mph (SB)	**35 mph (NB)** 28 mph (SB)
9	DAVIS STREET SOUTH OF HICKORY LANE	30 mph	**30 mph (NB)** **32 mph (SB)**	26 mph (NB) 27 mph (SB)	26 mph (NB) 27 mph (SB)
10	MERCHANT STREET NORTH OF WEST STREEET	30 mph	**34 mph (NB)** **37 mph (SB)**	28 mph (NB) 30 mph (SB)	28 mph (NB) **31 mph (SB)**
11	DOBBINS STREET NORTH OF E. MONTE VISTA AVENUE	35 mph	**39 mph (NB)** **40 mph (SB)**	34 mph (NB) 35 mph (SB)	34 mph (NB) 34 mph (SB)

Notes: Peak Hours based on times listed in Table 1
Bold represents speed equal to or higher than posted speed limit
* Prima facia speed

EXISTING TRAFFIC VOLUMES AND LEVEL OF SERVICE AT STUDY INTERSECTIONS

14 study intersections in and around Downtown Vacaville were selected based on preliminary model runs and discussion between DKS Associates and City of Vacaville staff. Turning movement traffic counts at study intersections were conducted during May 2019 between 7 and 9 AM and 4 and 6 PM. All counts were conducted on a typical weekday (Tuesday-Thursday) with school in session. Like the 24-hour segment counts, these volumes were recorded in 15-minute periods and summarized by hour. **Figure 4** displays the study intersection, segment, bike and pedestrian count locations and **Figure 5** and **Figure 6** show intersection geometrics and turning movement counts. The detailed count data sheets are provided in Appendix A.

These intersections were then evaluated utilizing the Level of Service (LOS) methodology outlined in the Highway Capacity Manual, Sixth Edition (HCM 6) as applied through the Synchro/SimTraffic 10 software suite. This methodology estimates the average delay experienced by drivers going through the intersection and assigns one of six letter grades, ranging from A to F. These letter grades are based on driver perspective of the facility where LOS A represents the best operating condition and LOS F represents conditions that are near or over the capacity of the roadway.

Table 3 summarizes the delay thresholds, in seconds, for each LOS at signalized and unsignalized locations.

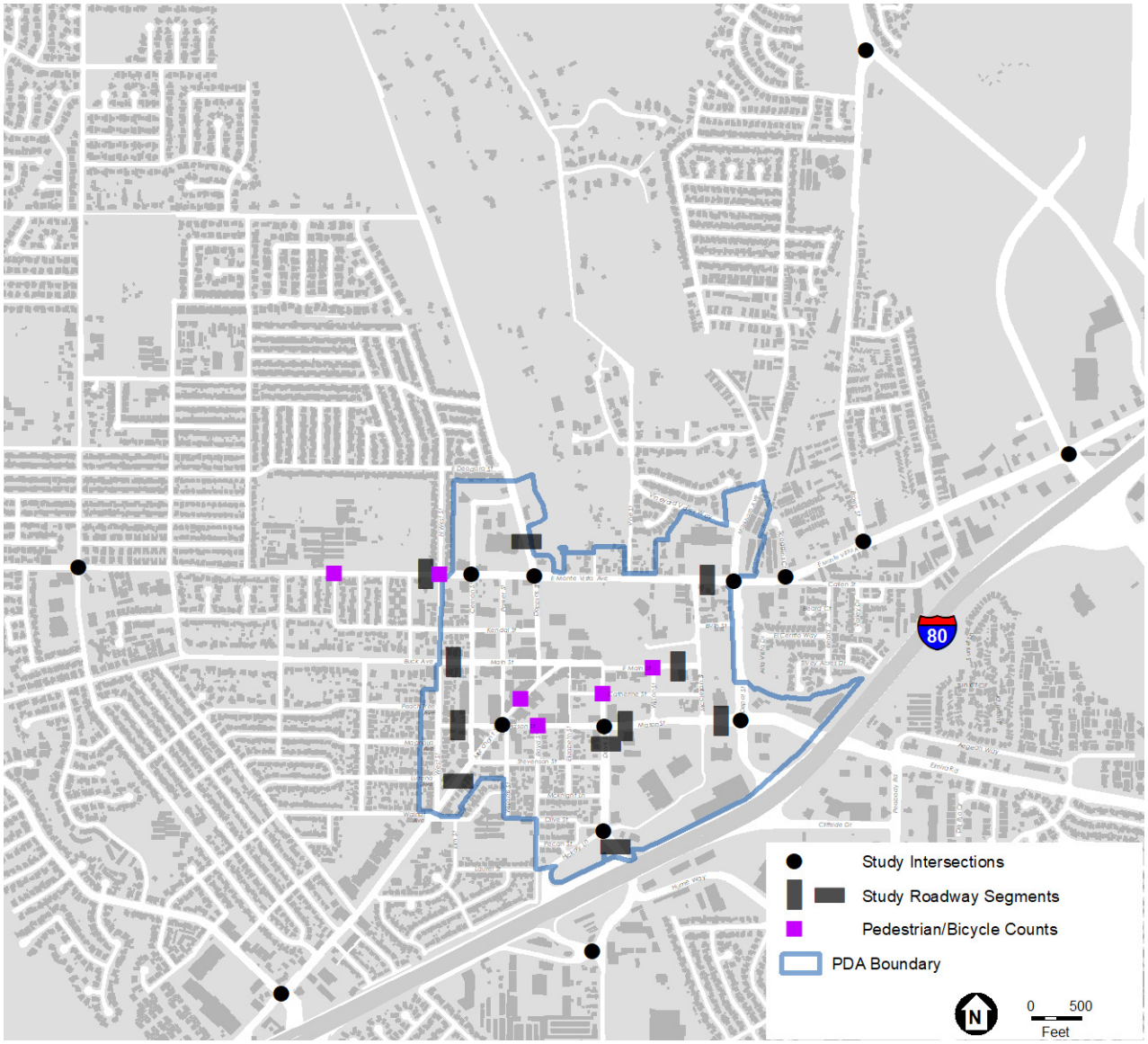

FIGURE 4. LOCATIONS OF STUDY ROADWAYS AND INTERSECTIONS

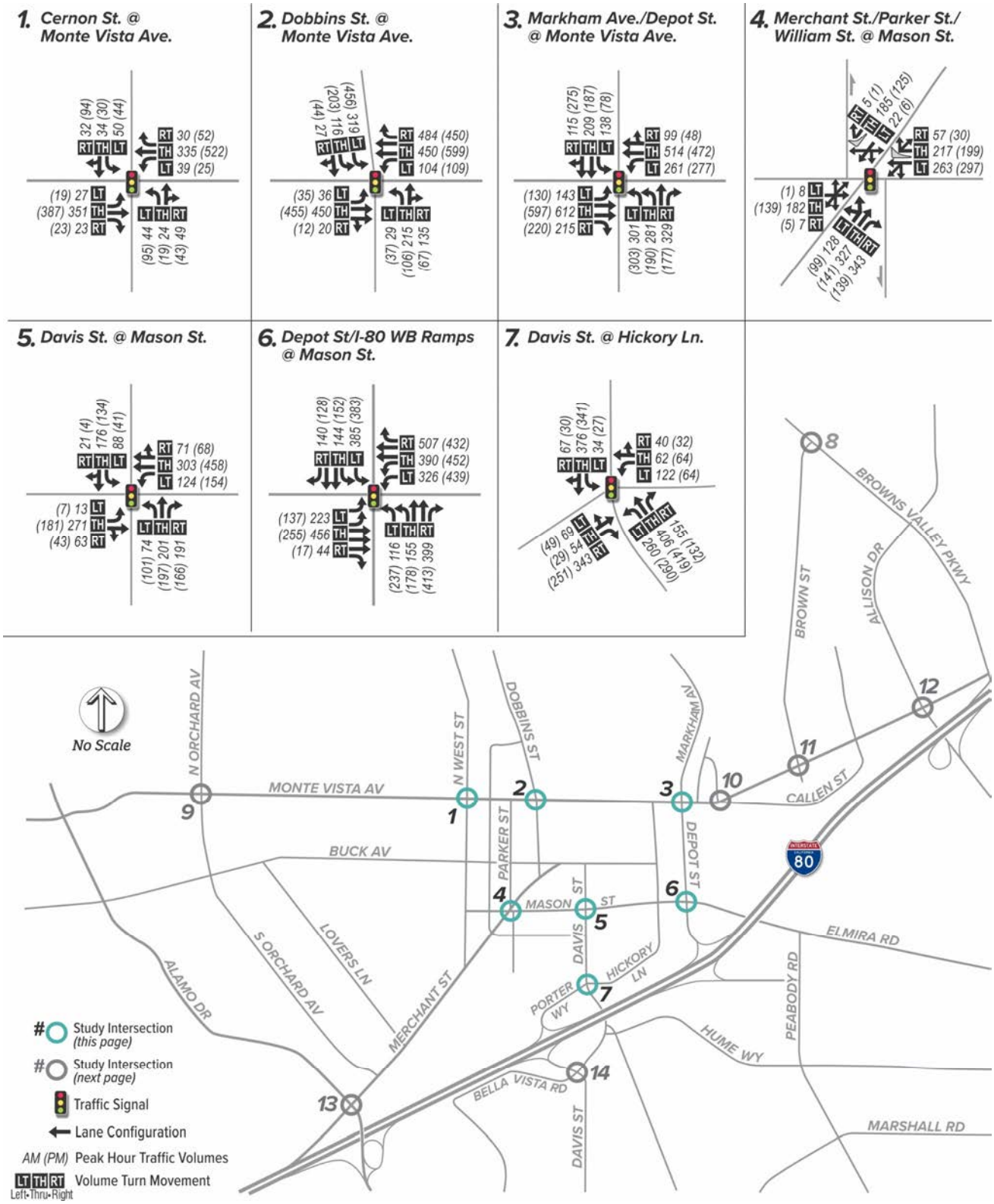

FIGURE 5. STUDY INTERSECTION CONFIGURATION AND COUNT WITHIN THE PDA

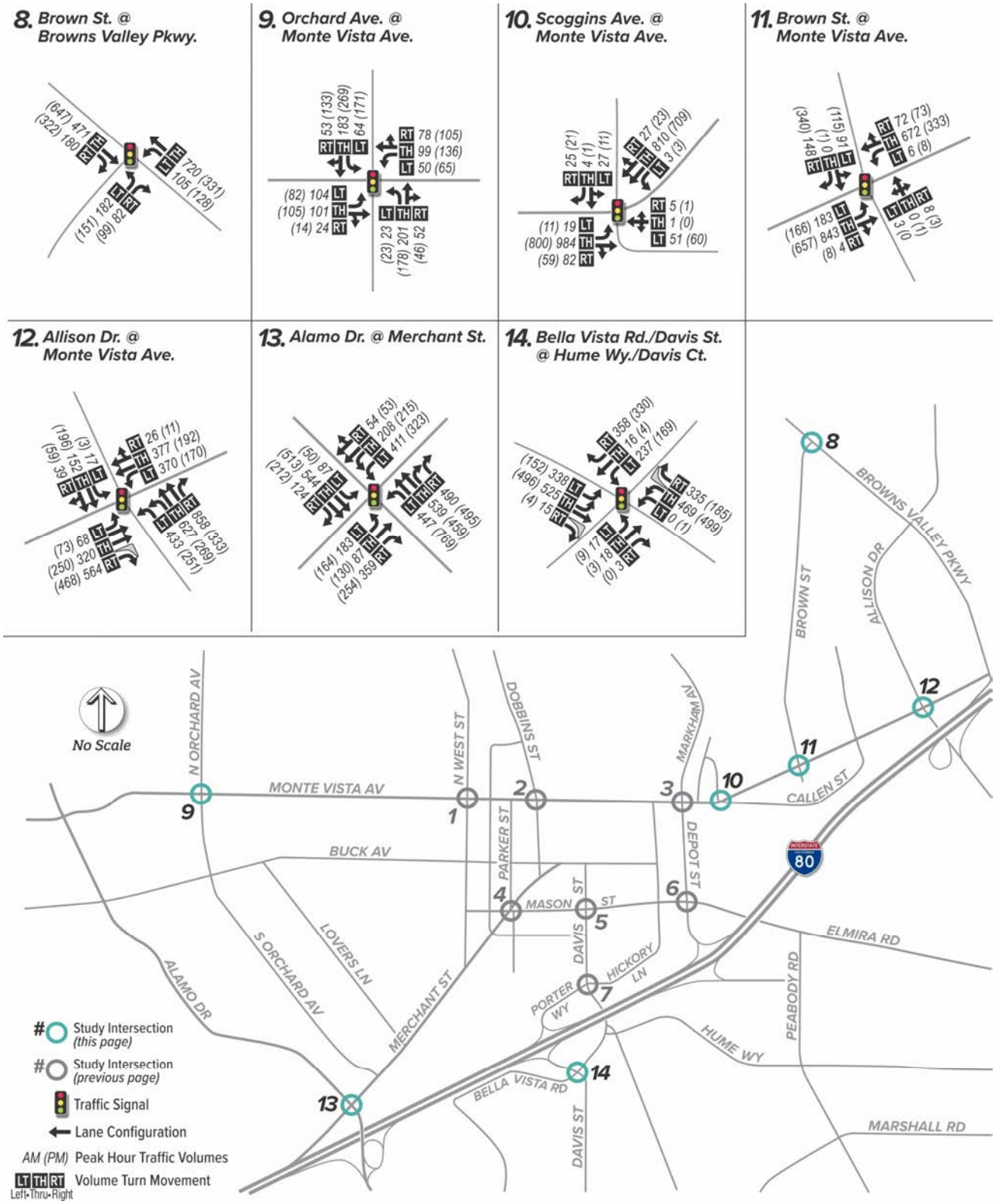

FIGURE 6. STUDY INTERSECTION CONFIGURATION AND COUNT OUTSIDE OF THE PDA

TABLE 3: LEVEL OF SERVICE THRESHOLDS FOR INTERSECTIONS

LEVEL OF SERVICE (LOS)	TOTAL DELAY PER VEHICLE	
	SIGNALIZED INTERSECTIONS	UNSIGNALIZED INTERSECTIONS
A	<10	<10
B	≥10 and <20	≥10 and <15
C	≥20 and <35	≥15 and <25
D	≥35 and <55	≥25 and <35 (*Mid D = 30*)*
E	≥55 and <80	≥35 and <50
F	≥80	≥50

Source: Highway Capacity Manual, Sixth Edition
Note: *Mid D based on City of Vacaville Policy TR-P3.2

CITY LEVEL OF SERVICE POLICY

The City of Vacaville General Plan has the following policies relating to level of service and traffic congestion:

- **Policy TR-P3.1** - Endeavor to maintain LOS C as the LOS goal at all intersections and interchanges to facilitate the safe and efficient movement of people, goods, and services. Strive to design improvements to provide a LOS goal of C, based on the City's most recent 20+ year traffic forecast including signalized and unsignalized intersections.
- **Policy TR-P3.2** - At signalized and all-way stop control intersections, LOS mid-D shall be the LOS significance threshold. At two-way stop control intersections, LOS D shall be the LOS significance threshold.
- **Policy TR-P3.3** - To allow for infill development and higher density development at transit centers, the LOS significance threshold shall be LOS D at signalized and all-way stop control intersections in the Downtown Urban High Density Residential Overlay District or other Priority Development Areas (PDA) designated by the City. At two-way stop controlled intersections in these areas, the overall LOS significance threshold shall be LOS mid-E.
- **Policy TR-P3.4** - The City may allow LOS above the established LOS significance thresholds for a particular location as an interim level of service where improvements are programmed by the City that will improve the service to an acceptable level.
- **Policy TR-P3.5** - The City may allow LOS above the established LOS significance thresholds for a particular location on the basis of specific findings described in Chapter 14.13 of the Vacaville Land Use and Development Code, Traffic Impact Mitigation Ordinance.

Several of the intersections analyzed fall in the city Priority Development Area in Downtown Vacaville and, the thresholds set forth in Policy TR-P3.2 apply to only those locations.

Table 4 provides a summary of the existing operating conditions and City thresholds of significance by the study location. The detailed Synchro analysis sheets are provided in Appendix B.

TABLE 4: EXISTING LEVEL OF SERVICE AT STUDY INTERSECTIONS

LOCATION	POLICY THRESHOLD			AM		PM	
	IN PDA	DELAY	LOS	DELAY	LOS	DELAY	LOS
CERNON ST & MONTE VISTA AVE	Yes	55	D	27.9	C	21.9	C
DOBBINS ST & MONTE VISTA AVE	Yes	55	D	25.4	C	30.0	C
MARKHAM AVE/DEPOT ST & MONTE VISTA AVE	Yes	55	D	32.2	C	36.8	D
MERCHANT ST/PARKER ST/ WILLIAM ST & MASON ST	Yes	55	D	46.2	D	54.5	D
DAVIS ST & MASON ST	Yes	55	D	26.2	C	25.5	C
DEPOT ST/I-80 WB RAMPS & MASON ST	Yes	55	D	29.1	C	31.7	C
DAVIS ST & HICKORY LN	Yes	55	D	32.0	C	44.0	D
BROWN ST & BROWNS VALLEY PKWY	No	45	Mid-D	12.5	B	7.9	A
ORCHARD AVE & MONTE VISTA AVE	No	45	Mid-D	25.0	C	16.6	B
SCOGGINS AVE & MONTE VISTA AVE	No	45	Mid-D	29.2	C	39.9	D
BROWN ST & MONTE VISTA AVE	No	45	Mid-D	21.2	C	41.0	D
ALLISON DR & MONTE VISTA	No	45	Mid-D	22.4	C	22.1	C
ALAMO DR & MERCHANT ST	No	45	Mid-D	33.4	C	30.4	C
BELLA VISTA RD/DAVIS ST & HUME WAY/DAVIS ST	No	45	Mid-D	**105.2**	**F**	**110.2**	**F**

Note: **Bold** denotes locations that do not meet LOS Policy

The table above shows that all intersections within the PDA operate acceptably. Only Bella Vista Road/Davis Street & Hume Way/Davis Court operates unacceptably as a result of high volumes headed onto and off of the I-80 ramps combined with split phasing.

Figure 7 graphically summarizes the results from Table 4. All intersections in Downtown Vacaville operate at LOS D or better, with the exception of Bella Vista Road/Davis Street & Hume Way/Davis Court not meeting the city LOS standard due to the volume of vehicles accessing I-80 and the split phase operation of the signal.

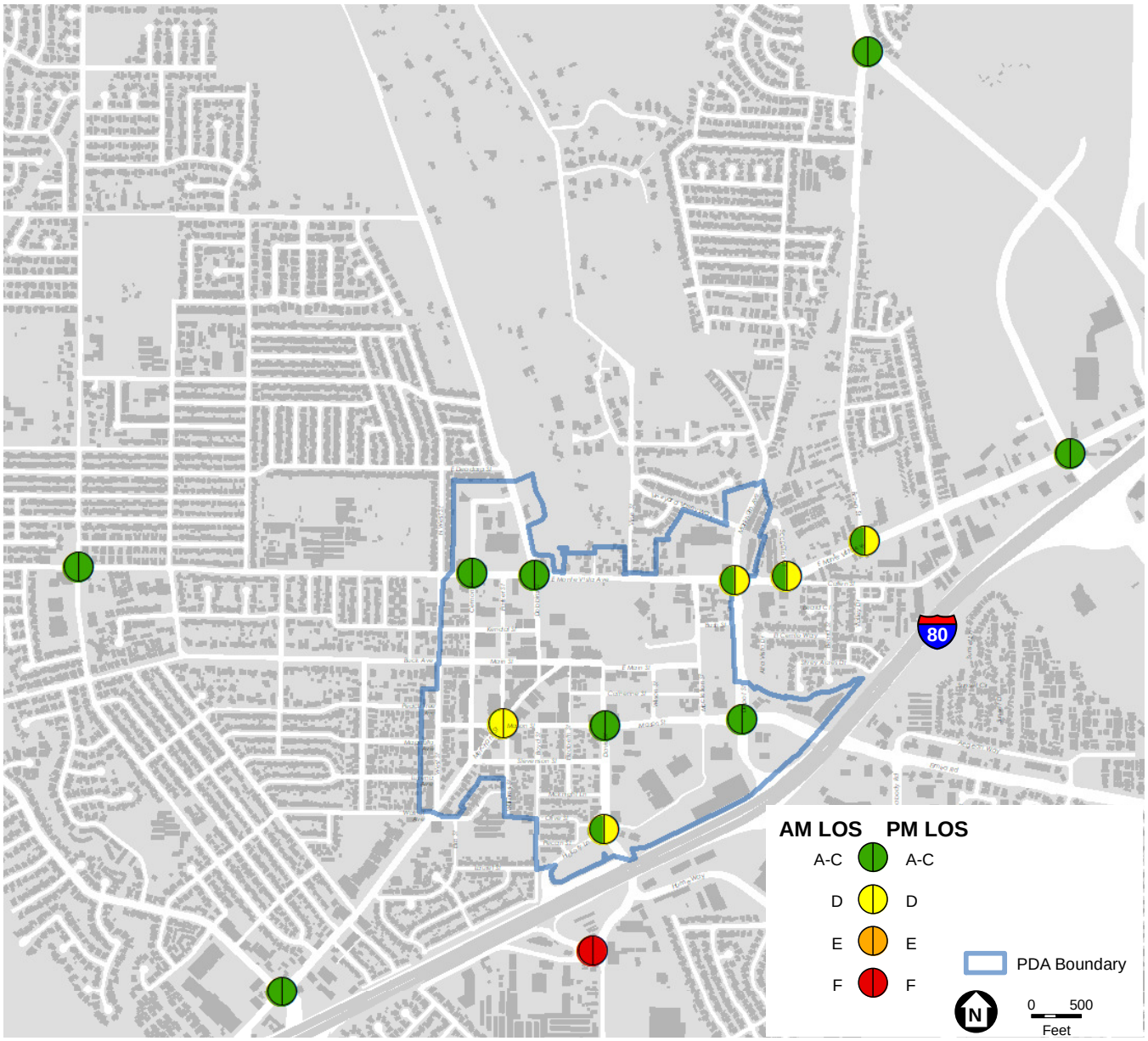

FIGURE 7: EXISTING INTERSECTION LEVEL OF SERVICE (LOS)

PLANNED AND COMPLETED ROADWAY IMPROVEMENTS

Merchant Street ADA Sidewalk Improvements

This road diet project, originally initiated by the City's ADA Committee, provides accessible sidewalk and ramp improvements along the southeast side of Merchant Street between Lover's Lane and Elm Street. Narrowing Merchant Street from four through lanes to two through lanes allows for a striped center turning lane, bike lanes and on-street parking on both sides of the

roadway. This road diet environmental review was approved in 2015, construction was completed in 2017.

Vacaville General Plan Transportation Element

The Vacaville General Plan Transportation Element defines the long-term vision for citywide mobility by setting goals and policies that respond to existing conditions and future changes. Caltrans has three projects in its planning phase that will affect traffic flow into the PDA. Davis Street/Hickory Street Westbound On-Ramp project will extend the westbound on-ramp to provide an acceleration/merge lane. Davis Street Eastbound On-Ramp project will widen the bridge over Mason Street and extend eastbound on-ramp to provide an acceleration/merge lane. Mason Street Westbound On-Ramp Project will extend westbound on-ramp to provide an accelerating/merge lane.

PARKING FACILITIES

As a commercial center, Downtown Vacaville provides parking for residents, workers and visitors in off-street and on-street parking facilities. There are 14 available parking lots and a large number of streets to park along. **Figure 8** displays parking lots and roadways with available on-street parking within the PDA. The detailed parking inventory and occupancy data are provided in Appendix C.

OFF-STREET PARKING FACILITIES

There are currently 14 available off-street parking lots in Downtown Vacaville. These lots range in size from just over 20 to over 250 total spaces. **Table 5** shows that several lots restrict some spaces to be used by following specific rules. While all lots have spaces without restrictions and American Disabilities Act (ADA) spaces for people with disabilities (there are 58 disabled spaces altogether demarcated in parentheses) some lots reserve spaces to be used for a limited amount of maximum time. There are 178 ten-hour spaces, 67 four-hour spaces, and 98 two-hour spaces. One lot offers two parking spaces to be exclusively used for loading and unloading purposes. Interestingly, Lot 4 and Lot 7 do not have "no limit" parking spaces. In total, there are 1,115 total spaces available in off-street parking lots.

ON-STREET PARKING FACILITIES

In addition to off-street parking facilities, many roadways in the PDA have on-street parking facilities for a total of 1,201 parking spaces. **Table 6** shows the total number of parking spaces on each roadway and breaks them out in categories defined by restrictions. Most notably from the table, Cernon Street and Main Street offer more than 100 total spaces each, followed closely by East Main Street with over 90 spaces. Similar to off-street lots, some roadways have parking spaces with restrictions to the amount of time that vehicles may be parked. There are nine four-hour spaces, 438 two-hour spaces, and seven 20-30 minute spaces.

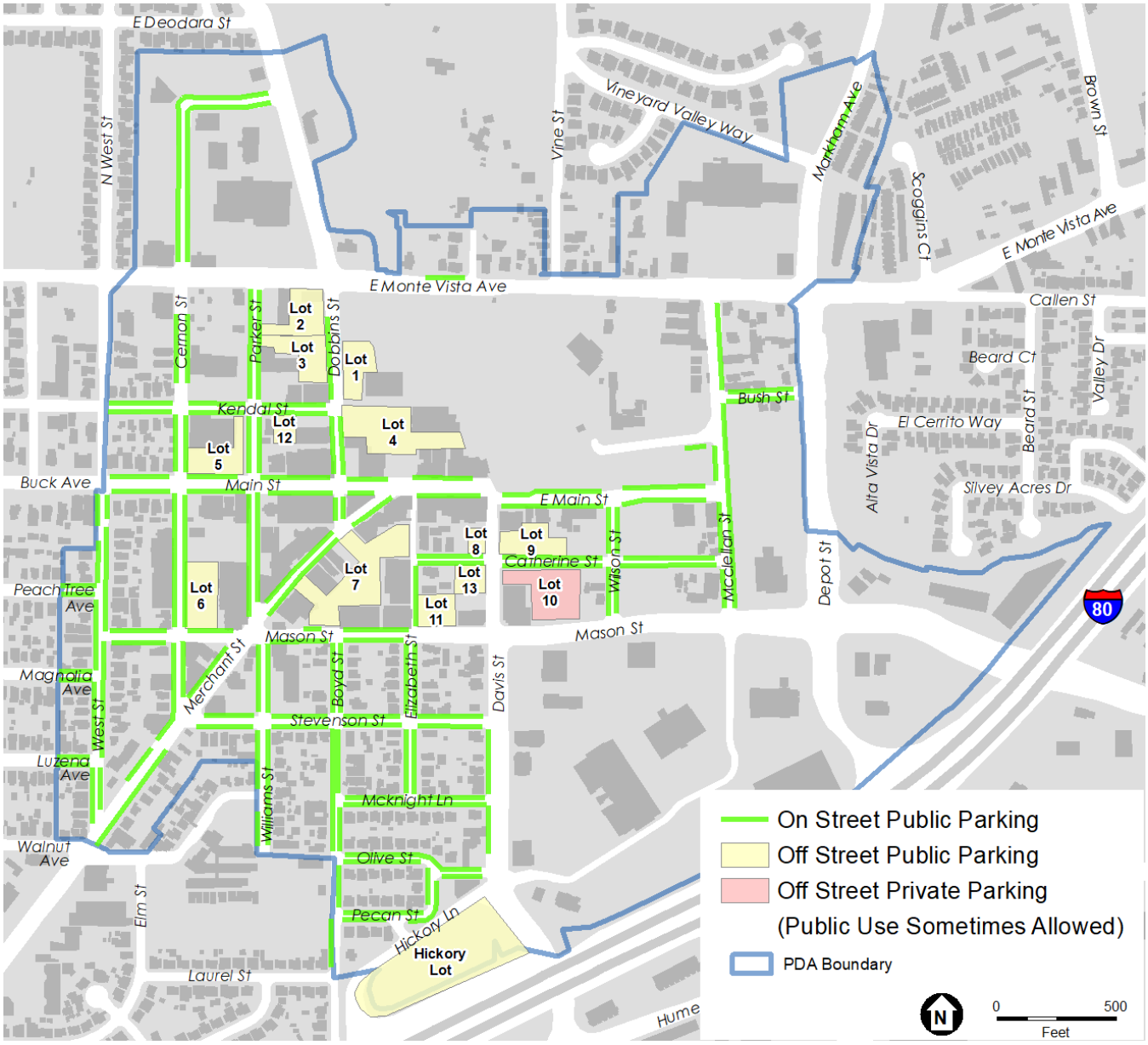

FIGURE 8: EXISTING PARKING FACILITIES IN PDA

TABLE 5: OFF-STREET PARKING INVENTORY

LOT	NUMBER OF SPACES					
	NO LIMIT	10 HOUR LIMIT	4 HOUR LIMIT	2 HOUR LIMIT	LOADING	TOTAL SPACES
1	47 (5)	-	-	-	-	52
2&3	28 (7)	96	-	-	-	131
4	- (7)	72	-	75	-	154
5	86 (4)	-	-	-	-	90
6	30 (5)	-	-	60	2	97
7	- (7)	10	63	63	-	143
8	21 (1)	-	-	-	-	22
9	61 (4)	-	-	-	-	65
11	40 (2)	-	4	-	-	46
12	19 (2)	-	-	-	-	21
13	41 (2)	-	-	-	-	43
HICKORY LOT	244 (7)	-	-	-	-	251
TOTAL ALL LOTS	617 (53)	178	67	198	2	1,115

Note: (Disabled Spaces)

TABLE 6: ON-STREET PARKING INVENTORY

STREET	NUMBER OF SPACES				
	NO LIMIT	4 HOUR LIMIT	2 HOUR LIMIT	20/30 MINUTE LIMIT	TOTAL SPACES
BOYD ST	42 (1)	-	19	-	62
BUSH ST	25	-	-	-	25
CATHERINE ST	53	9	-	-	62
CERNON ST	62	-	50	2	114
DAVIS ST	14	-	-	-	14
DOBBINS ST	-	-	24	-	24
ELIZABETH ST	35	-	15	-	50

STREET	NUMBER OF SPACES				
	NO LIMIT	4 HOUR LIMIT	2 HOUR LIMIT	20/30 MINUTE LIMIT	TOTAL SPACES
KENDAL ST	36	-	15	-	51
LINCOLN HWY	10	-	-	-	10
LUZENA AVE	9	-	-	-	9
MAGNOLIA AVE	10	-	-	-	10
MAIN ST	16	-	122 (5)	4	147
EAST MAIN ST	49 (3)	-	37 (2)	-	91
MARKHAM AVE	14	-	-	-	14
MASON ST	21	-	28	-	49
MCCLELLAN ST	36	-	-	-	36
MCKNIGHT LN	32	-	-	-	32
MERCHANT ST	-	-	61	-	61
MONTE VISTA AVE	5	-	-	-	5
OLIVE ST	31	-	-	-	31
PARKER ST	-	-	62	1	63
PEACH TREE AVE	9	-	-	-	9
PECAN ST	17	-	-	-	17
SCHOOL ST	7 (1)	-	-	-	8
STEVENSON ST	68	-	5	-	73
WEST ST	73	-	-	-	73
WILLIAM ST	35	-	-	-	35
WILSON ST	26	-	-	-	26
TOTAL ALL STREETS	735 (5)	9	438 (7)	7	1,201

Note: (Disabled Spaces)

PARKING UTILIZATION

While there are 1,115 available spaces in 14 off-street parking lots and 1,201 on-street parking spaces, not all spaces are filled at any given time. Parking utilization is a metric which describes the percent of occupied parking spaces at different times of the day over the total available spaces in a lot or along a roadway.

OFF-STREET PARKING UTILIZATION

Three "sweeps" of all off-street and on-street parking occupancy were conducted in May 2019. While each sweep may have taken more than an hour to complete, sweeps were conducted during the morning (9:00AM), midday (noon), and afternoon (4pm).

Table 7 describes the utilization of off-street parking facilities by restriction and time of day. On average, more parking spaces are occupied between noon and 1:00 PM than in the morning or in the afternoon. Spaces with 4-hour limits see the most drastic change in occupancy during different times of the day: In the morning, only 52% of spaces are occupied. By mid-day, 81% of those same spaces are filled. By late afternoon, the number of vehicles in those spaces decreases to 69%. Similarly, 2-hour spaces are 72% occupied in the morning, almost completely full (at 99%) at mid-day, and 79% in the afternoon. Of the 1,115 off-street parking spaces half are occupied in the morning. At this time, most workers have arrived, but tourist activity is just beginning to pick up. At mid-day, 61% of all spaces are filled. By this time, activity in the PDA is at its peak for the day and workers from outside of the PDA are drawn downtown for lunch. In the afternoon, occupancy falls back down to 53% as workers begin to leave for the day and evening activities downtown have not yet ramped up.

TABLE 7: OFF-STREET PARKING OCCUPANCY BY SPACE TYPE

SPACE TYPE	INVENTORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
		OCC	%	OCC	%	OCC	%
NO LIMIT	617	319	52%	306	50%	287	47%
DISABLED	53	8	15%	23	43%	11	21%
10 HOUR LIMIT	178	77	43%	121	68%	101	57%
4 HOUR LIMIT	198	104	52%	161	**81%**	138	70%
2 HOUR LIMIT	67	48	72%	66	**99%**	53	79%
LOADING	2	-	0%	-	0%	-	0%
TOTAL SPACES	1,115	556	50%	677	61%	590	53%

Note: **Bold** text indicates an occupancy of 80% or greater

Table 8 describes off-street parking occupancy by parking lot and time of day. Lots 4, 5, 7, 8 and 12 all experience average weekday occupancies over 80% at some point during the day. Each of these lots are located within the central four-block core of the PDA bound by East Monte Vista Avenue to the north, Davis Street to the east, Stevenson Street to the south and Cernon Street to the west. Lot 5 is adjacent to Main Street between Cernon Street and Parker Street and has a capacity of 84 parking spaces. On an average weekday morning, this lot is 88% occupied. Lots 4 and 12 are located one block north of Main Street. Lot 4 has 154 available parking spaces and on average is 90% occupied at mid-day. Lot 12, with only 12 total spaces, is nearly full for most of the day; it is 95% occupied at mid-day and 84% in the afternoon. Lot 7 is accessed directly by Merchant Street between Mason Street and Main Street and has 144 spaces. This lot also remains around capacity for most of the day, where at mid-day the lot is 94% occupied and 83% occupied in the afternoon. Lot 8 is a smaller lot with 22 spaces and is located adjacent to the northwest corner of Davis Street and Catherine Street; it is 82% full at mid-day.

TABLE 8: OFF-STREET PARKING OCCUPANCY BY PARKING LOT

PARKING LOT	INVENTORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
		OCC	%	OCC	%	OCC	%
1	52	30	58%	40	77%	25	48%
2&3	131	40	31%	48	37%	41	31%
4	154	71	46%	138	**90%**	112	73%
5	90	74	**88%**	60	71%	59	70%
6	97	43	44%	64	66%	47	48%
7	143	97	67%	136	**94%**	120	**83%**
8	22	12	55%	18	**82%**	15	68%
9	65	26	41%	27	43%	25	40%
11	46	37	76%	29	59%	32	65%
12	21	12	63%	18	**95%**	16	**84%**
13	43	7	17%	7	17%	11	26%
HICKORY LOT	251	107	43%	92	37%	87	35%
TOTAL ALL LOTS	1,115	556	50%	677	60%	590	52%

Note: **Bold** text indicates an occupancy of 80% or greater

FIGURE 9: ON-STREET PARKING ON MASON STREET

ON-STREET PARKING UTILIZATION

Table 9 shows on-street parking occupancy by space type and time of day. Overall, on-street parking facilities have lower occupancy than off-street parking lots. This is in part due to the shorter time restrictions than off-street parking lots but may also be attributed to the discomfort of parking next on an active roadway rather than a lot with less activity than a street. The most occupied parking spaces by restriction are 2-hour and 20-30 minute spaces. Of the 438 2-hour limited parking spaces, 51% are occupied in the morning, 64% at mid-day, and 54% in the afternoon. Similarly, of the seven 20-30 minute restricted spaces, 3 are occupied in the morning, while 5 are full at mid-day and in the afternoon.

TABLE 9: ON-STREET PARKING OCCUPANCY BY SPACE TYPE

SPACE TYPE	INVENTORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
		OCC	%	OCC	%	OCC	%
NO LIMIT	735	231	31%	202	27%	223	30%
DISABLED	5	1	20%	-	0%	-	0%
4 HOUR LIMIT	9	1	11%	1	11%	1	11%
2 HOUR LIMIT	438	223	51%	281	64%	237	54%
DISABLED	7	1	14%	3	43%	2	29%
20-30 MINUTE LIMIT	7	3	43%	5	71%	5	71%
TOTAL SPACES	1,201	460	38%	492	41%	468	39%

Due to the sheer number of roadways with on-street parking, **Table 10** summarizes on-street parking by blocks with 80% occupancy or more during at least one time period during the day. 13 of these roadways are nearly full for two or more periods, representing a majority of the day. Similar to parking lots, these roadways are generally located within the four-block core. Most notably, Dobbins Street from Kendal Street to Main Street is completely full at mid-day and over-capacity in the afternoon. This is only possible if vehicles are parked too close to one another.

To prevent oversaturation of parking supply in the core, the City may consider implementing parking meters along portions of select roadways with an option to only operate at mid-day. This could encourage better distribution in parking utilization throughout the PDA.

TABLE 10: ON-STREET BLOCKS WITH 80% OCCUPANCY OR GREATER

STREET	FROM	TO	SIDE	INVEN-TORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
					OCC	%	OCC	%	OCC	%
CERNON	MASON	STEVENSON	WEST	10	7	70%	10	**100%**	7	70%
DOBBINS	KENDAL	MAIN	EAST	6	5	**83%**	6	**100%**	7	**117%**
DOBBINS	KENDAL	MAIN	WEST	9	4	44%	9	**100%**	7	78%
DOBBINS	MAIN	MERCHANT	EAST	3	3	**100%**	1	33%	2	67%
DOBBINS	MAIN	MERCHANT	WEST	3	2	67%	1	33%	3	**100%**
ELIZABETH	CATHERINE	MASON	EAST	6	4	67%	5	**83%**	5	**83%**
ELIZABETH	STEVENSON	MCKNIGHT	WEST	10	7	70%	8	**80%**	8	**80%**
KENDAL	CERNON	PARKER	SOUTH	10	9	**90%**	1	10%	2	20%

STREET	FROM	TO	SIDE	INVEN-TORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
					OCC	%	OCC	%	OCC	%
KENDAL	PARKER	DOBBINS	NORTH	8	5	63%	8	**100%**	5	63%
KENDAL	PARKER	DOBBINS	SOUTH	7	7	**100%**	6	**86%**	4	57%
LUZENA	KENTUCKY	WEST	NORTH	5	3	60%	1	20%	5	**100%**
MAIN	CERNON	PARKER	NORTH	15	13	**87%**	7	47%	6	40%
MAIN	DOBBINS	MERCHANT	NORTH	9	3	33%	8	**89%**	8	**89%**
MAIN	DOBBINS	MERCHANT	SOUTH	8	6	75%	8	**100%**	7	**88%**
MAIN	ELIZABETH	DAVIS	NORTH	22	7	32%	20	**91%**	19	**86%**
MAIN	ELIZABETH	DAVIS	SOUTH	22	13	59%	20	**91%**	14	64%
MAIN	PARKER	DOBBINS	NORTH	21	17	**81%**	17	**81%**	17	**81%**
MAIN	PARKER	DOBBINS	SOUTH	21	17	**81%**	13	62%	18	**86%**
MASON	BOYD	ELIZABETH	NORTH	10	9	**90%**	8	**80%**	6	60%
MASON	BOYD	ELIZABETH	SOUTH	6	1	17%	6	**100%**	3	50%
MASON	CERNON	PARKER	NORTH	3	2	67%	3	**100%**	3	**100%**
MASON	WILLIAM	BOYD	NORTH	4	2	50%	4	**100%**	2	50%
MERCHANT	PARKER	DOBBINS	NORTH	13	7	54%	13	**100%**	9	69%
MERCHANT	PARKER	DOBBINS	SOUTH	26	15	58%	21	**81%**	22	**85%**
MERCHANT	WEST	CERNON	NORTH	5	1	20%	5	**100%**	2	40%
PARKER	KENDAL	E MONTE VISTA	EAST	10	8	80%	8	**80%**	-	0%
PARKER	KENDAL	MAIN	EAST	5	3	60%	5	**100%**	3	60%
PARKER	KENDAL	MAIN	WEST	6	7	**117%**	2	33%	4	67%
STEVENSON	BOYD	ELIZABETH	NORTH	8	7	**88%**	5	63%	5	63%
WILLIAM	STEVENSON	END OF ST	WEST	10	6	60%	8	**80%**	5	50%
WILLIAM	MASON	STEVENSON	WEST	6	7	**117%**	3	50%	2	33%

Note: **Bold** text indicates an occupancy of 80% or greater

Figure 10 depicts all off-street and on-street parking facilities with 80% or more occupancy for at least one period of the day as shown in Table 8 and Table 10. Almost all of these highly utilized facilities fall within the four-block core of downtown.

KNOWN PROJECTS THAT WILL IMPACT PARKING SUPPLY

Design Review- Brendan Premium Theater

The Design Review of Brendan Premium Theater consists of the construction of a theater building which will also include a restaurant, bar and an outdoor patio. The site of the project is currently designated as parking, however due to the retrofit of the existing theatre and the low number of seats in the new theatre there overall fewer seats in the theater. Even with the number of reduced parking spaces after the project completion, the parking stock will be adequate to serve the site. Construction on this project has not yet begun.

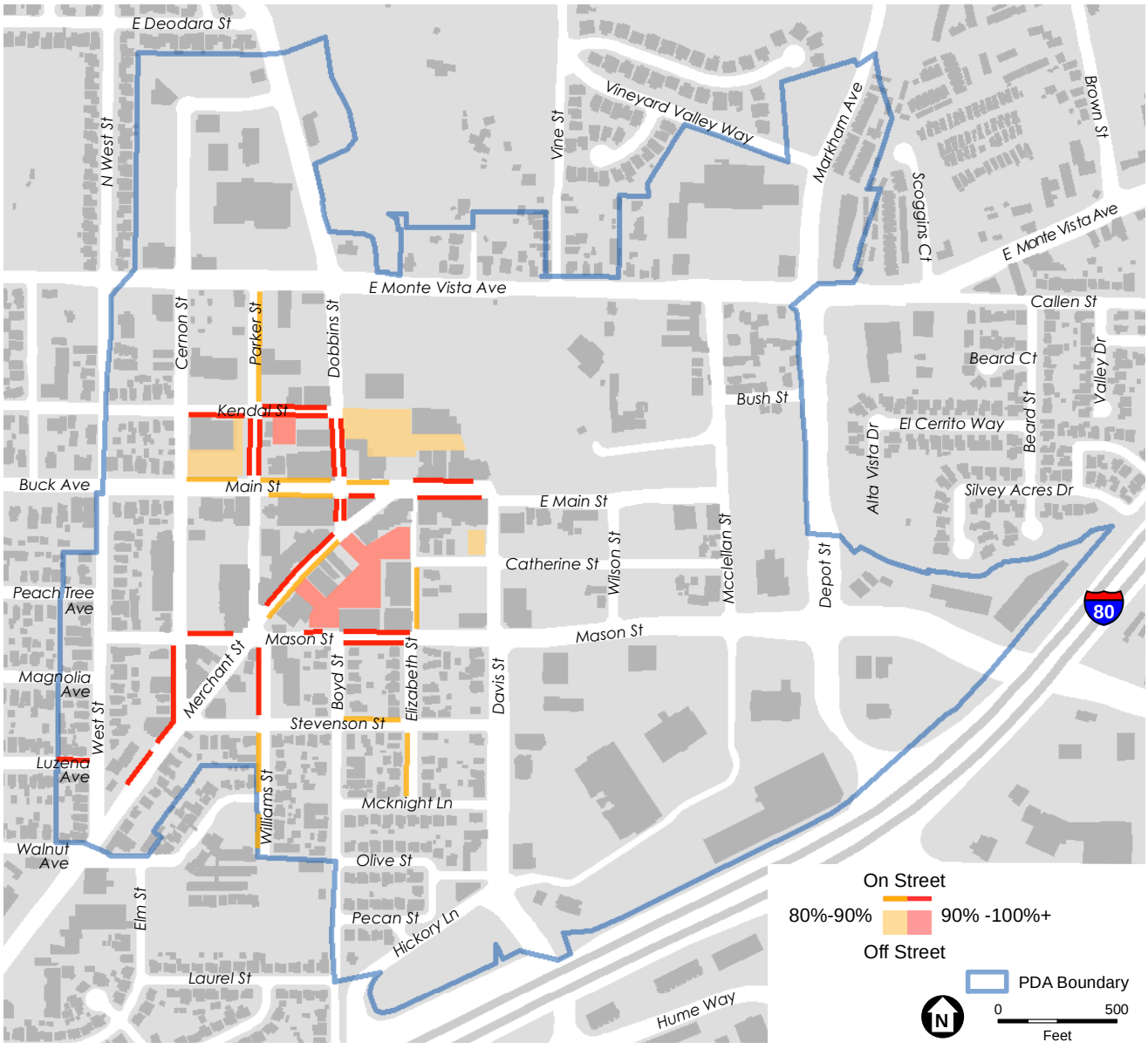

FIGURE 10: PARKING FACILITIES WITH 80% OR HIGHER PEAK OCCUPANCY

PEDESTRIAN AND BICYCLE FACILITIES

Downtown Vacaville is highly walkable; this can be seen in the amount of pedestrian facilities in the PDA. Sidewalks line nearly every roadway with crosswalks at almost every intersection involving a major roadway. Unfortunately, the same cannot be said for bicycle facilities where there is not a clear route for cyclists to ride from one side of the PDA to the other.

EXISTING PEDESTRIAN FACILITIES

There is a reasonably high level of pedestrian connectivity in the PDA. Nearly all roadways include sidewalks on both sides of the street which are nearly always connected by sidewalks. There are no pedestrian "gaps" in the PDA that would cause a pedestrian to vastly alter their route.

FIGURE 11: HIGH VISIBILITY CURB CUTS & CROSSWALKS AT DAVIS STREET & CATHERINE STREET

FIGURE 12: CROSSWALKS ALONG MERCHANT STREET AT MASON STREET AND PARKER STREET

EXISTING SIDEWALKS

Most roadways in the PDA feature sidewalks on both sides of the street. Only the alleyways between West Street and Dobbins Street and the westbound I-80 ramps as they approach Mason Street completely lack obvious pedestrian facilities. Furthermore, Elm Street, Hickory Lane and Porter Way are roadways that offer sidewalks for the full length of the segment on one side of the street, but for only a portion of their extent on the other.

EXISTING CROSSWALKS

Similar to sidewalks, nearly all intersections in the PDA feature at least one crosswalk. Every location where a minor street intersects a major collector or arterial roadway includes at least one crosswalk. There are some stretches of roadway where nearly every approach has a crosswalk, including portions of Merchant Street and Main Street. Three intersections along Davis Street (at

Mason Street, Catherine Street and Main Street) are painted red, making them highly visible to drivers. Similarly, many curb cuts in Downtown Vacaville were built using concrete with a red pigment. The red paint and curb cuts help drivers recognize their approach to a crosswalk as they drive through the city and improves safety for pedestrians.

EXISTING PATHS AND WALKWAYS

As a primarily built out and developed commercial center, there are few pedestrian paths and walkways outside of sidewalks that line roadways in the PDA. The exception is Andrews Park and along Ulatis Creek where there are several pedestrian only paths and walkways.

Figure 13 depicts all pedestrian facilities in Downtown Vacaville. The figure shows that most of the PDA area is served well by pedestrian facilities, including sidewalks, crosswalks, and walking paths. Crosswalks designated as "High Visibility" in the figure are the red painted crosswalks along Davis Street between Mason Street and Main Street. Where pedestrian connectivity suffers is where the PDA meets the freeway (Interstate 80) and providing access to areas south to the interstate.

EXISTING PEDESTRIAN FLOWS AT SELECT LOCATIONS

Pedestrian foot traffic was counted at several crosswalk locations during the same timeframe as the segment and intersection counts. **Table 11** shows pedestrian counts at the 14 study intersections from the intersection analysis in addition to six more locations in Downtown Vacaville. Of note, over 100 pedestrians cross at the following locations during either the AM or PM two-hour peak period, or both: Cernon Street and Monte Vista Avenue, West Street and Monte Vista Avenue, and Myrtle Street and West Monte Vista Avenue. Nearly 280 pedestrians cross at West Street and Monte Vista Avenue in the AM peak period due to its proximity to Vacaville High School.

TABLE 11: TWO-HOUR PEAK PERIOD PEDESTRIAN FLOWS

LOCATION	PEAK PERIOD	NORTH	SOUTH	EAST	WEST	5TH LEG	TOTAL
CERNON ST & MONTE VISTA AVE	AM	46	90	15	9		**160**
	PM	41	44	12	21		**118**
DOBBINS ST & MONTE VISTA AVE	AM	34	13	0	8		55
	PM	39	35	1	18		93
MARKHAM AVE/DEPOT ST & MONTE VISTA AVE	AM	10	10	9	2	18	49
	PM	24	18	10	11	24	87
MERCHANT ST/PARKER ST/ WILLIAM ST & MASON ST	AM	0	0	0	0		0
	PM	0	0	0	0		0
DAVIS ST & MASON ST	AM	3	4	9	5		21
	PM	6	5	25	10		46

LOCATION	PEAK PERIOD	NORTH	SOUTH	EAST	WEST	5TH LEG	TOTAL
DEPOT ST/I-80 WB RAMPS & MASON ST	AM	2	2	6	1		11
	PM	15	6	9	6		36
DAVIS ST & HICKORY LN	AM	0	3	5	7		15
	PM	0	5	8	2		15
BROWN ST & BROWNS VALLEY PKWY	AM	0	4	8	0		12
	PM	0	3	5	0		8
ORCHARD AVE & MONTE VISTA AVE	AM	4	5	36	16		61
	PM	14	11	14	7		46
SCOGGINS AVE & MONTE VISTA AVE	AM	9	4	0	8		21
	PM	11	18	0	12		41
BROWN ST & MONTE VISTA AVE	AM	10	13	0	21		44
	PM	15	25	0	19		59
ALLISON DR & MONTE VISTA	AM	9	11	5	1	12	38
	PM	6	9	5	3	10	33
ALAMO DR & MERCHANT ST	AM	4	0	3	2		9
	PM	8	0	5	0		13
BELLA VISTA RD/DAVIS ST & HUME WAY/DAVIS CT	AM	3	0	15	8	12	38
	PM	5	0	29	4	30	68
BOYD ST & MASON ST	AM	6	2	4	0		12
	PM	7	9	11	1		28
MERCHANT ST & BET. MASON ST & DOBBINS ST	AM	1	4	6	1		12
	PM	30	1	19	0		50
DAVIS ST & CATHERINE ST	AM	0	1	6	9		16
	PM	3	2	38	3		46
WILSON ST & MAIN ST	AM	0	2	0	1		3
	PM	0	1	14	8		23
WEST ST & E MONTE VISTA AVE.	AM	**167**	17	73	22		**279**
	PM	77	28	7	16		**128**
MYRTLE ST & W MONTE VISTA AVE	AM	0	0	**153**	0		**153**
	PM	0	0	11	0		11

Note: **Bold** text represents pedestrian volumes of 100 or higher

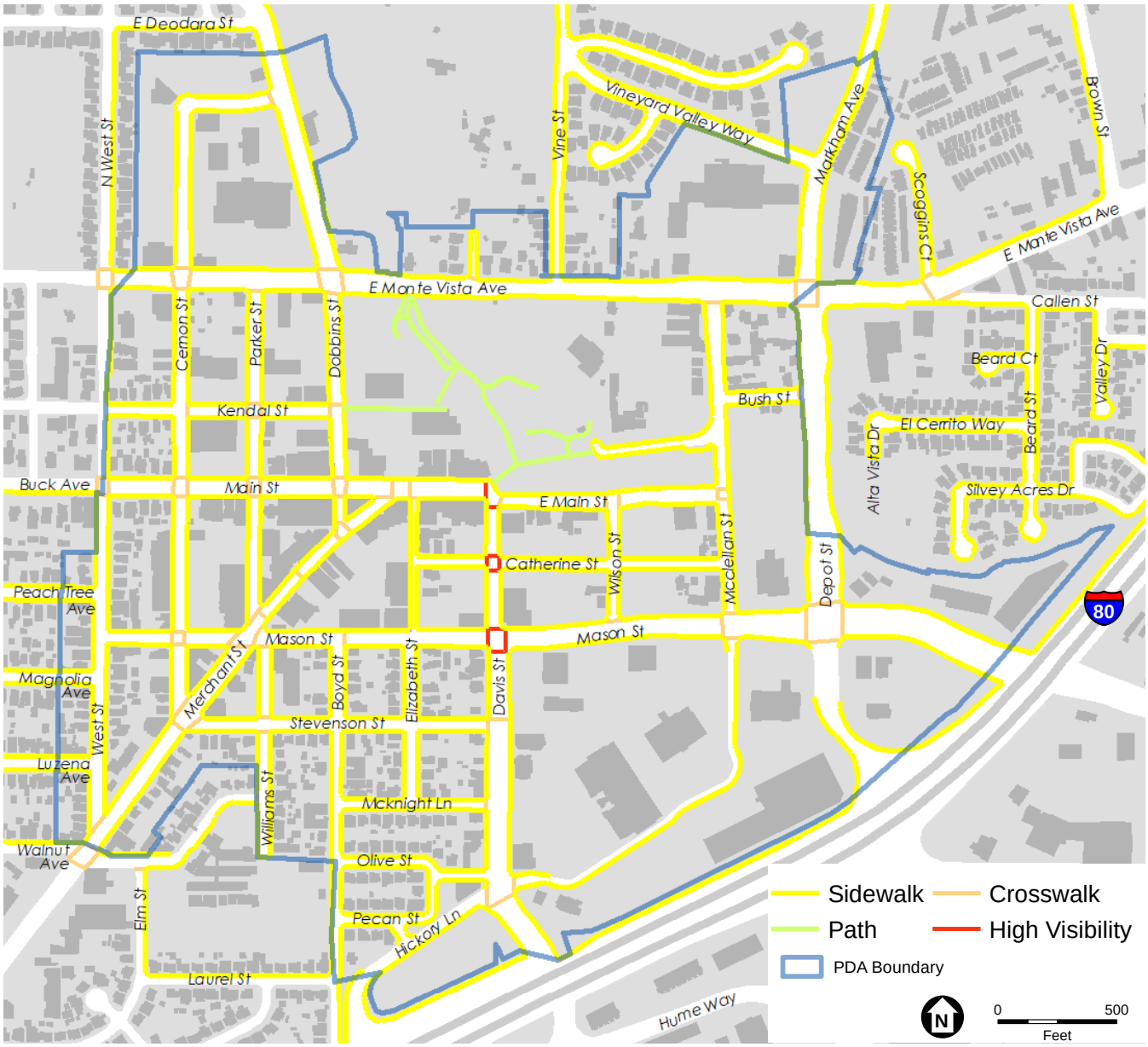

FIGURE 13: EXISTING PEDESTRIAN FACILITIES

Figure 14 shows the AM and PM peak flows of pedestrian activity at each of the study intersections. There are high pedestrian volumes in the AM, but not the PM peak period, northeast of the PDA. These locations are close to Vacaville High School which starts class during the AM peak period, but releases prior to the PM peak. The four-block core of Downtown Vacaville is approximately the opposite where there is more pedestrian activity later in the day. This makes sense as most businesses are closing for the day during the PM peak period. Due to good pedestrian connectivity those workers and tourists visiting downtown can easily access the heavily utilized parking lots, shops and restaurants.

VACAVILLE GENERAL PLAN TRANSPORTATION ELEMENT

The planned roadway improvements section in the Vacaville General Plan states the intent to install audible pedestrian push buttons for signals in the vicinity of transit facilities. Also, to further improve pedestrian facilities countdown pedestrian signals have been at all City-controlled traffic signals. The installation of each of these improvements is currently underway.

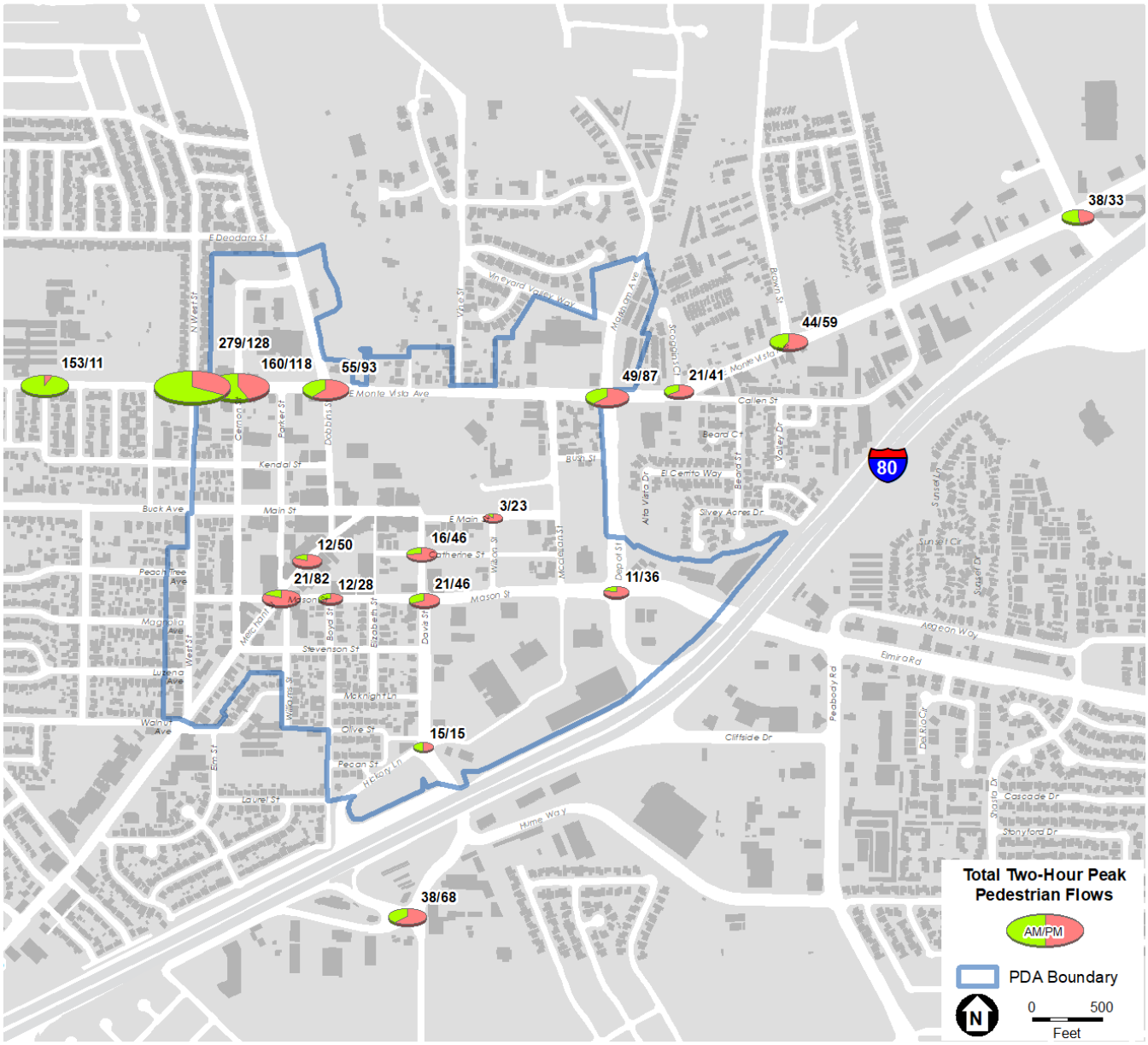

FIGURE 14: EXISTING PEDESTRIAN FLOWS

EXISTING BICYCLE FACILITIES

Downtown Vacaville is a relatively flat area with few obstacles preventing bicycle connectivity. However, the bicycle network in the PDA has several gaps between facilities, does not adequately connect to facilities outside of Downtown Vacaville and does not effectively encourage more users. With the exception of the facilities on the eastern boarder of the PDA, the largest limitations to cyclists is that there is currently no way for cyclists to travel east-west or north-south through Downtown Vacaville.

The Vacaville General Plan Transportation Element classifies bicycle facilities into categories that are consistent with the California Streets and Highways Code (Section 8904), the California Manual on Uniform Traffic Control Devices for Streets and Highways, and the Caltrans Highway Design manual. Different types of bikeways are divided three class categories: bike paths, bike lanes and bike routes.

FIGURE 15: BIKE PATH THROUGH ANDREWS PARK

BICYCLE PATHS

There is only one bicycle path in the PDA along the Ulatis Creek beginning just to the north of East Monte Vista Avenue and extending through Andrews Park. The purpose of the northern most portion of the path is to allow cyclists a way across East Monte Vista Avenue without having to physically cross the street by connecting to Dobbins Street. The portion of the bike path south of this connection, through Andrews Park, currently ends at McClellan Street. Furthermore, signage at pedestrian and utility vehicle entry points to Andrews Park prohibits bicycle use on sidewalks.

FIGURE 16: BIKE LANE ALONG DEPOT STREET

BICYCLE LANES

A few roadways in the PDA include bike lanes. Most notably, there is a fully connected path that allows cyclists to ride through the PDA entirely along bicycle facilities between the eastern boundary on Mason Street and the northern boundary on Depot Street. Cyclists can also enter the PDA using bike lanes on Dobbins Street from the north, East Monte Vista Street from the west, and Merchant Street or Davis Street from the south. However, there are no bicycle facilities within the most central four block square bound by Parker Street, Mason Street, Depot Street and East Monte Vista Avenue. This gap in service discourages the use of bicycles within the core of Downtown Vacaville.

BICYCLE ROUTES

In reviewing the City of Vacaville General Plan Transportation Element, there are no shared roadway facilities in the PDA.

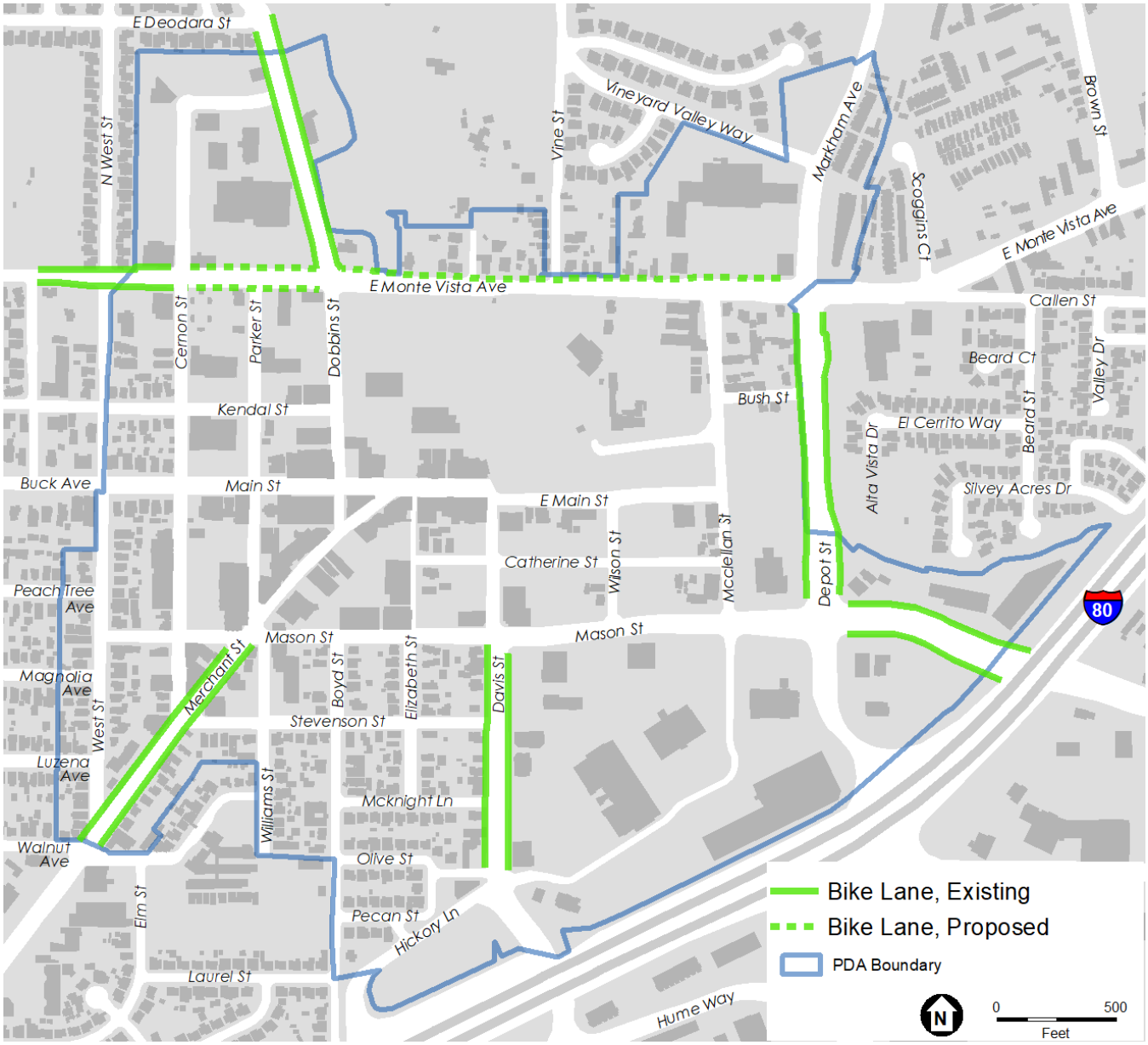

FIGURE 17: EXISTING BICYCLE FACILITIES

EXISTING BICYCLE FLOWS AT SELECT LOCATIONS

Bicycle counts were collected at the same locations and at the same time as pedestrian counts. **Table 12** indicates two-hour peak AM and PM bicycle flows in and around Downtown Vacaville. What is clear is that the bicycle volumes in the PDA are low, especially when compared to pedestrian activity. Only two locations (Scoggins Avenue/East Monte Vista and Brown Street/ East Monte Vista) have total bicycle volumes equal to or greater than 20 during the AM or PM peak.

TABLE 12: TWO-HOUR PEAK PERIOD BICYCLE FLOWS

LOCATION	PEAK PERIOD	NORTH	SOUTH	EAST	WEST	5TH LEG	TOTAL
CERNON ST & MONTE VISTA AVE	AM	0	0	1	4		5
	PM	0	0	3	1		4
DOBBINS ST & MONTE VISTA AVE	AM	5	2	1	3		11
	PM	2	0	4	2		8
MARKHAM AVE/DEPOT ST & MONTE VISTA AVE	AM	1	1	2	2		6
	PM	0	2	4	3		9
MERCHANT ST/PARKER ST/ WILLIAM ST & MASON ST	AM	0	0	0	0	0	0
	PM	0	0	0	0	1	1
DAVIS ST & MASON ST	AM	3	1	1	1		6
	PM	2	3	0	2		7
DEPOT ST/I-80 WB RAMPS & MASON ST	AM	0	0	1	5		6
	PM	0	5	3	7		15
DAVIS ST & HICKORY LN	AM	2	2	0	0		4
	PM	4	7	0	2		13
BROWN ST & BROWNS VALLEY PKWY	AM	1	0	0	3		4
	PM	0	0	1	0		1
ORCHARD AVE & MONTE VISTA AVE	AM	3	6	1	0		10
	PM	4	4	0	2		10
SCOGGINS AVE & MONTE VISTA AVE	AM	1	0	7	4		12
	PM	6	0	14	8		**28**
BROWN ST & MONTE VISTA AVE	AM	0	1	3	2		6
	PM	0	6	8	6		**20**
ALLISON DR & MONTE VISTA	AM	1	2	1	0		4
	PM	3	0	6	4		13
ALAMO DR & MERCHANT ST	AM	1	3	0	0		4
	PM	3	1	0	1		5
BELLA VISTA RD/DAVIS ST & HUME WAY/DAVIS CT	AM	1	4	1	1		7
	PM	4	9	0	3		16
	AM	0	0	1	1		2

LOCATION	PEAK PERIOD	NORTH	SOUTH	EAST	WEST	5TH LEG	TOTAL
BOYD ST & MASON ST	PM	0	0	1	3		4
MERCHANT ST & BET. MASON ST & DOBBINS ST	AM	3	0	0	1		4
	PM	1	0	0	1		2
DAVIS ST & CATHERINE ST	AM	3	2	0	0		5
	PM	2	4	0	1		7
WILSON ST & MAIN ST	AM	0	0	1	3		4
	PM	1	0	2	1		4
WEST ST & E MONTE VISTA AVE.	AM	0	0	2	5		7
	PM	2	1	2	1		6
MYRTLE ST & W MONTE VISTA AVE	AM	1	0	2	4		7
	PM	0	0	2	1		3

Note: **Bold** text represents bicycle volumes of 20 or higher

As shown in **Figure 18**, there are only two locations with 20 or more cyclists in a in either the AM or PM two-hour peak period, neither of which are in the PDA; Scoggins Avenue and Monte Vista Avenue and Brown Street and Monte Vista Avenue. An average of 15 cyclists uses Depot Street/I-80 WB Ramps and Mason Street, the only location in the PDA where more than one approach has bicycle facilities.

Most notably, no intersection in the four-block core mentioned above see more than 7 bicyclists in a peak period. Given the number of pedestrians in the same area, there is a lot of potential for increased bicycle use Downtown. The current state is undoubtedly a consequence of the complete lack of connected designated bicycle facilities in the area.

City of Vacaville General Plan Policy TR-P7.6, described below, prioritizes bicycle improvements in the PDA. To fully connect bicycle facilities in the PDA, it is recommended that the City implement bicycle routes throughout Downtown Vacaville. To remove all gaps in the system, facilities will need to be designated to both north-south and east-west roadways.

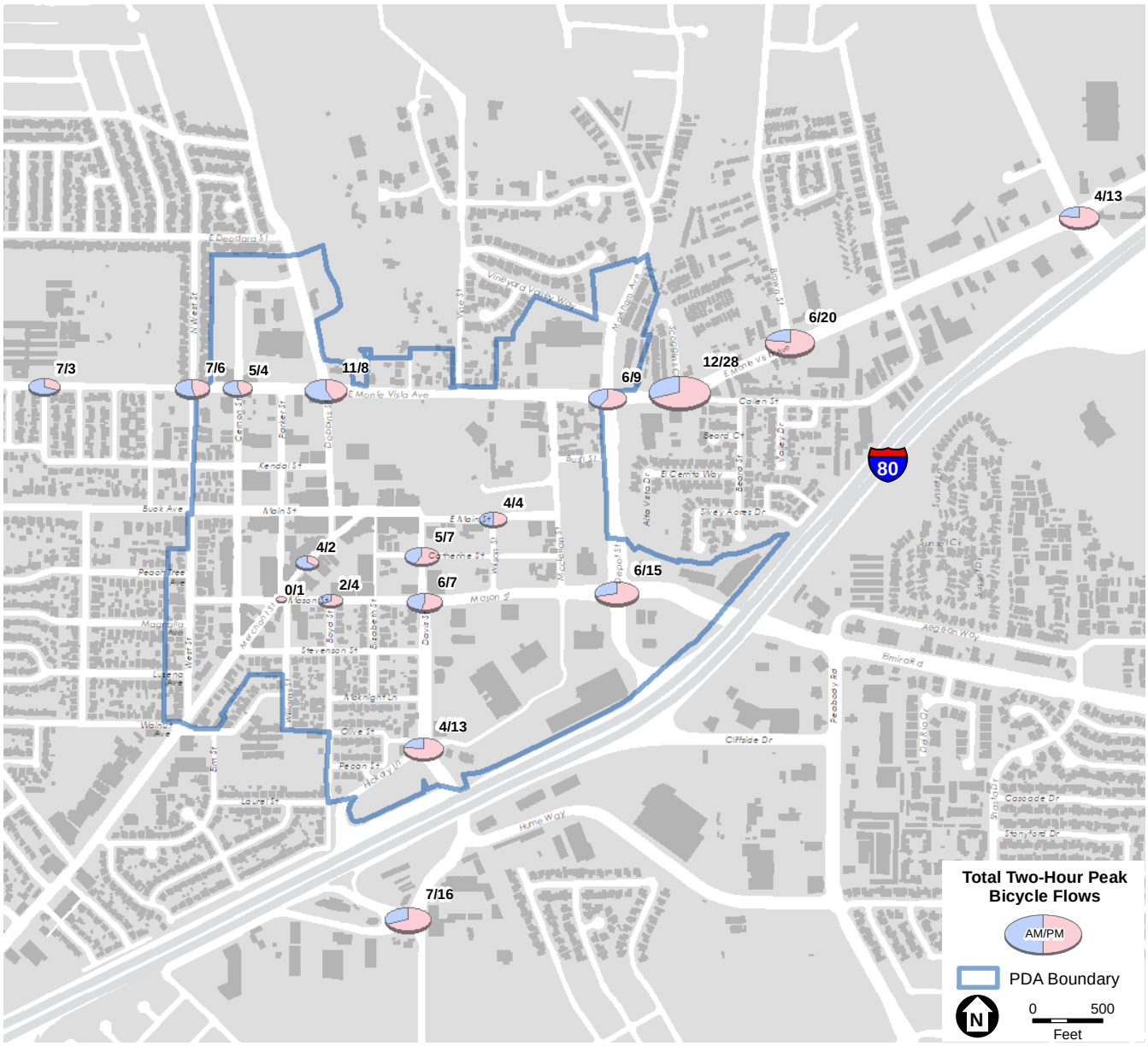

FIGURE 18: EXISTING BICYCLE FLOWS

PLANNED BICYCLE FACILITIES

Several bicycle improvements are planned for the PDA. The following summaries describe sources of bicycle network improvements that are planned to be made in Downtown Vacaville.

Vacaville General Plan Transportation Element

The Vacaville General Plan Transportation Element defines the long-term vision for citywide mobility by setting goals and policies that respond to existing conditions and future changes.

General Plan Figure TR-2, which has recently been updated, shows the latest proposed bicycle facilities citywide. In Downtown Vacaville, a bicycle path is proposed which will connect the existing path under East Monte Vista Avenue through Andrews Park, under I-80 and to the existing Ulatis Creek bike path. Bike lanes are also proposed, but require funding to implement, along East Monte Vista Avenue from the western PDA boundary until the intersection of the existing Ulatis Creek bike path, starting up again and continuing east after Depot Street. This pathway will also include wayfinding signage to encourage bike traffic.

In the section that describes planned non-motorized transportation improvements, there is guidance to construct future bikeway improvements shown in Figure TR-2. The Transportation Element also proposes policy which may impact bicycle use in the PDA:

Policy TR-P7.5 Where existing street widths or traffic volumes do not support creation or maintenance of striped bicycle lanes or shoulders, but where cyclists can be safely accommodated and other conditions permit, consider use of mechanisms such as "sharrows" (i.e. markings painted on roadways indicating that auto traffic is expected to share the lane with cyclists), pavement markings, or "share the road" signage to indicate to both drivers and bicyclists that bicycle use is permitted and should be expected.

Policy TR-P7.6 Require that new development applications design roadway networks to accommodate on-street bicycle lanes, and only allow bicycle routes with sharrows when on-street bicycle lanes are impractical or infeasible.

Policy TR-P7.6 Prioritize transportation improvements that support and enhance travel by transit, bicycle, and pedestrian modes to and from designated Priority Development Areas (PDA).

Solano Countywide Bicycle Transportation Plan

The 2012 Solano Countywide Bicycle Transportation Plan is the primary planning tool used to encourage the development of a unified bicycle system throughout Solano County. While it discusses plans for the development of a bicycle path along Ulatis Creek between Leisure Town Road and I-80, there are no plans to expand the path further west to the PDA.

East Main District Mixed-Use Development Project

The document description and location can be found in Planned Roadway Improvements. This project will extend the existing Creek Trail from McClellan Street to Depot Street, which will be accessible to bicyclist.

City of Vacaville Traffic Impact Fee (TIF)

The City of Vacaville Traffic Impact Fee is used to assure financing for projects listed in the General Plan. While it is currently being updated, once adopted it will document the extension of the Ulatis Creek Bike Trail within the PDA. This extension will connect the existing trail through Andrews Park to the existing trails both north and southeast of Downtown Vacaville. To the north, the trail will be extended along Ulatis Creek to the existing trail near the corner of Juniper Street and North West Street. To the southeast, the trail will continue to follow Ulatis Creek under I-80 to the existing path west of Alison Drive.

TRANSIT

There are four City Coach bus routes that operate in Downtown Vacaville. Ridership for each of these routes varies but all similarly experience a spike in ridership at the Transit Plaza. This plaza is located at the corner of East Monte Vista Avenue and Cernon Street and is well connected to Downtown Vacaville through the large number of sidewalks and crosswalks. It should be noted that STA has considered the possibility the future addition of an express bus service which serves the park and ride lot in the PDA.

EXISTING TRANSIT ROUTES

The 2017 Vacaville Transit Service Evaluation Study describes the routes that run through the PDA in the following manner:

- **Route 2** starts at the Transportation Plaza in the PDA, then serves City Hall before it heads west towards the Transit Plaza along Elmira Road. On weekdays, Route 2 begins service at 6:00 AM and ends at 6:22 PM. On Saturdays, Route 2 begins service at 7:52 AM and ends service at 5:52 PM. Two buses provide 30-minute service frequencies. On weekdays, the route operates for just over 25 vehicle service-hours and 333 vehicle service-miles. On Saturdays, the route operates 20 vehicle service hours and just over 260 vehicle service miles.

- **Route 5** predominantly serves the neighborhoods in the south of Vacaville. In the PDA, the route uses Merchant Street to serve the Transit Plaza before returning the way that it came. On weekdays, Route 5 runs from 6:15 AM to 6:45 PM, and from 8:15 AM to 6:15 on Saturdays, with two buses providing 30-minute service frequencies. On average weekdays, service-miles are almost 390, and just over 300 on Saturday. City Coach also adds one tripper run to this route, which also serves as a tripper run for Route 8. As with Route 2, this tripper only operates during the school year.

- **Route 6** serves the more central areas of Vacaville, stopping along the Markham neighborhood to the north of the PDA before stopping at the Transit Plaza. The bus then returns to the Transportation Center, following the same route. Operating hours are from

6:00 AM to 6:24 PM on weekdays and 7:54 AM to 5:54 PM on Saturdays, with two buses providing 30-minute frequencies. Route 6 provides 25 vehicle service-hours on an average weekday, and 20 service hours on Saturday, and approximately 300 weekday service-miles and 240 average Saturday service miles.

Transit route times changes, sometimes yearly based upon need. Prior to June 8, 2018, Route 8 served the Brenden Theatres and the Transit Plaza in the PDA. Since that date, the route has been revised as the new Route 3 and no longer serves Downtown Vacaville. **Figure 19** shows each of the Vacaville City Coach bus routes that operate in and around Downtown Vacaville.

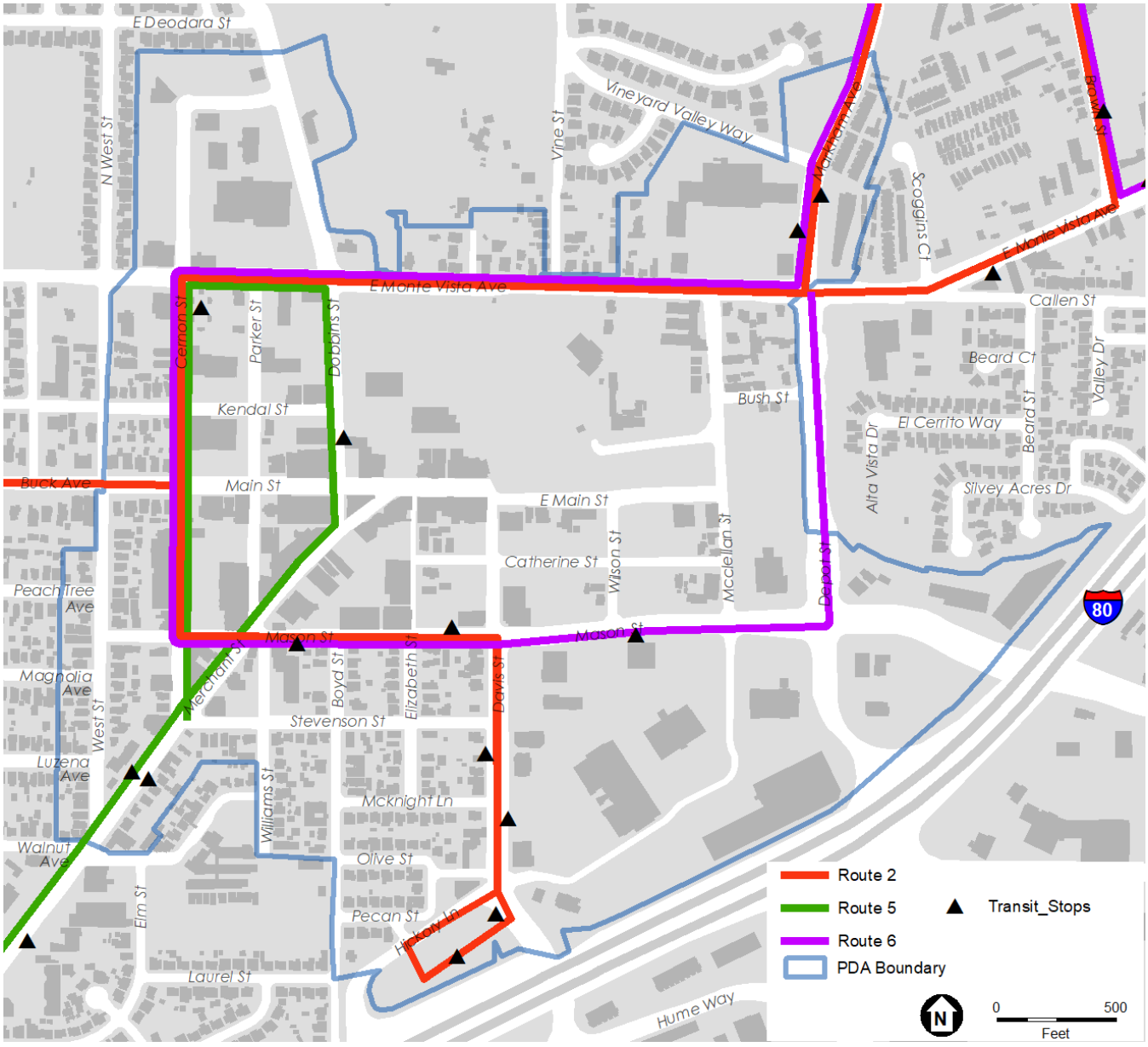

FIGURE 19: EXISTING TRANSIT ROUTES AND STOPS IN PDA

EXISTING TRANSIT RIDERSHIP

Table 13 shows average daily by boardings and alightings by bus stop within and near Downtown Vacaville using data presented in 2017 Vacaville Transit Service Evaluation Study. As one might expect, the Transit Plaza draws the most ridership in the PDA. Beyond being a full service transit facility rather than a stop on the side of a road, its easily accessible location downtown and covered waiting areas are ideal. The table also shows the average and maximum load on a bus, or how full a bus might be, after each stop.

TABLE 13: AVERAGE DAILY RIDERSHIP NEAR PDA

STOP	AVERAGE DAILY PASSENGERS			LOAD AFTER STOP	
	ON	OFF	TOTAL	AVERAGE	MAXIMUM
Route 2					
LES SCHWAB / MASON & DEPOT	0.6	3.5	4.1	1.8	15
MASON & ELIZABETH	1.2	4.6	5.8	1.7	15
TRANSIT PLAZA	49.5	31.1	80.6	2.2	19
MERCHANT ST & CERNON	0	4.0	4.0	2.1	19
CITY HALL / MERCHANT ST.	5.8	1.2	6.9	2.3	19
VALERO / MERCHANT & ORCHARD	4	2.9	6.9	2.3	20
VACAVILLE MUSEUM / BUCK AVE	1.2	2.9	4.1	2.8	30
TRANSIT PLAZA	57.6	25.9	83.5	3.4	46
PRIME TIME NUTRITION / MONTE VISTA	8.6	7.5	16.1	3.4	47
JUANITA MARKET / BROWN ST.	6.9	4.6	11.5	3.5	47
NUGGET MARKET / BROWN VALLEY	4.0	6.3	10.4	1.6	13
Route 5					
TONY'S / MERCHANT & ALAMO	2.1	10.7	12.8	4.5	21
ACE HARDWARE / MERCHANT & ELM	1.6	6.9	8.5	4.2	19
MERCHANT & STEVENSON	0	3.2	3.2	4.0	19
MC BRIDE SENIOR CENTER / DOBBINS ST	4.8	12.8	17.6	3.9	19
TRANSIT PLAZA	68.7	45.3	114	3.7	19
MERCHANT & CERNON	0.5	0.5	1.1	4.3	19
CITY HALL / MERCHANT	7.5	1.1	8.5	4.3	19
VALERO / MERCHANT & ORCHARD	8.5	1.1	9.6	4.4	19
TONY'S / MERCHANT & ALAMO	2.1	10.7	12.8	4.5	21

STOP	AVERAGE DAILY PASSENGERS			LOAD AFTER STOP	
	ON	OFF	TOTAL	AVERAGE	MAXIMUM
	Route 6				
TROWER PARK / MARKHAM AV	7.0	5.4	12.4	4.2	41
MARKHAM & WESLEY	7.5	4.1	11.6	4.2	42
LUCKY'S / MARKHAM	5.8	14.9	20.7	3.9	44
TRANSIT PLAZA	67.1	106.9	174	2.7	36
MASON & WILLIAMS	1.7	2.1	3.7	2.6	36
SUTTER / MASON ST	9.9	5	14.9	2.8	34
LILLTE CEASAR'S / MARKHAM	15.3	8.7	24	3.1	33
MARKHAM & ROCKY HILL RD	5.0	4.6	9.5	3.1	32

Table 13 shows that in the PDA, Route 5 maintains a higher number of people on the bus after each stop than Routes 2 and 6. This makes sense because on Route 5, Downtown Vacaville is the end of the line where the other two routes serve a lot more of the surrounding neighborhoods. That said, Route 6 has the most activity at the Transit Plaza with an average of 174 daily boardings and alightings. This also makes sense because Routes 2 and 5 loop around and stop at the Transit Plaza twice every loop, where Route 6 only stops there once.