

Memorandum

Date: March 28, 2022
To: Abby Wittman and Toby Long, CHxTLD
From: Sam Tabibnia, Fehr & Peers
Subject: **BCRE Project – Shared Parking and Transportation Demand Management Summary**

OK20-0368.00

This memorandum presents the results of a shared parking analysis and Transportation Demand Management (TDM) summary for the BCRE Project (the project) in Pinole, CA. The project site is located at 2801 Pinole Valley Road and currently contains a commercial and office building of approximately 21,600 square feet with 115 parking spaces. Based on the site plan received September 7, 2021, the project consists of an 16,800 square foot addition to the existing commercial and office building and a new 29-unit residential building. The project would provide 123 automobile parking spaces and 66 bicycle parking spaces. Based on our analysis:

- City Code requires the project to provide 152 parking spaces.
- The peak parking demand for the project is estimated to be 160 spaces, without any shared parking
- Accounting for shared parking between different uses at the site could reduce typical peak parking demand by approximately 15 percent to 139 spaces. Parking demand could exceed parking supply on some weekdays throughout the year.
- Implementation of parking management strategies, such as TDM measures, which would incentivize project employees and residents to use non-automobile travel modes, could reduce the overall parking demand on a typical weekday to about 125 parking spaces, which would exceed the proposed parking supply of 123 spaces.
- The project has an agreement with the adjacent Pinole Valley Community Church to use up to six parking spaces on weekdays from 8:30 AM to 5:00 PM, which combined with the implementation of shared parking and TDM measures, could meet the on-site parking demand.
- A parking occupancy survey should be conducted at the site when about 50 percent of the office space is occupied to document the actual parking characteristics of the project and if necessary, determine changes to the strategies implemented at the site, including



adjustments to the use of the parking spaces at the Pinole Valley Community Church, to ensure that the parking demand generated by the site can be met.

The following sections describe the parking supply required for the project by the City Code, the estimated parking demand for the project with shared parking between the different land uses, and potential additional reductions in parking through TDM measures.

Parking Code Requirement

Table 1 presents the off-street automobile parking requirements for the project. The project includes 123 parking spaces, resulting in a deficit of 29 spaces from the parking code requirement of 152 spaces. The next section describes how the number of parking spaces for the project could be reduced through shared parking.

Table 1: Automobile Parking Code Requirements

Land Use	Size ¹	Required Parking Space Rate ¹	Required Parking Minimum ²
Office (Existing)	9,317 sf	1 per 250 sf	38
Office (Proposed)	8,293 sf	1 per 250 sf	34
Retail (<400ksf) ³	4,864 sf	1 per 250 sf	20
Bank (Drive-in Branch)	3,574 sf	1 per 300 sf	12
Medical/Dental Office ⁴	1,554 sf	1 per 250 sf	7
Fast Casual/Fast Food ⁵	870 sf	1 per 100 sf	9
Studio, Suburban Residential ⁶	12 DU	1.0 per DU	12
1 Bedroom, Suburban Residential ⁶	11 DU	1.0 per DU	11
2 Bedroom, Suburban Residential ⁶	6 DU	1.5 per DU	9
Total			152
Parking Provided			123
Parking Surplus or (Deficit) from Parking Code Requirements			(29)

Notes:

1. DU = dwelling units, sf = square feet. All sizes are net rentable space.
2. Per the Pinole Municipal Code, fractions of a space are rounded up to the nearest whole number. Number of parking spaces calculated by each use and floor for conservative estimates.
3. Existing locksmith, nail salon, hair salon, and massage businesses.
4. Existing dental office.
5. Existing donut shop.
6. Proposed residential uses. Parking requirements for residential developments eligible for density bonus per Pinole Municipal Code section 17.38.030D.

Sources: Pinole Municipal Code Chapter 17.48; Communication with City of Pinole, 2021; Fehr & Peers, 2021.



Shared Parking Methodology

This analysis estimates parking demand for the project site using the methods and rates developed by the Urban Land Institute (ULI) in *Shared Parking* (3rd Edition, 2020). Shared Parking is defined as the ability to share parking spaces due to variations in the accumulation of vehicles by hour, by day, and by season at individual land uses. For example, parking can be shared by complementary uses such as an office which has high-parking demand during weekdays and a restaurant that tends to have high parking demands during the evening and weekends. This allows one parking space to be used by two uses at different times, reducing the overall needed parking supply to accommodate the demand. Shared parking allows for an overall reduction in the parking supply by not assigning parking spaces to specific uses and allowing one parking space to be used by more than one use. ULI provides parking information for an assortment of land uses to estimate the number of parking spaces needed to adequately serve mixed-use projects, as well as single-use projects with common parking facilities.

Parking Demand without Shared Parking

The first section of **Table 2** presents the estimated peak parking demand rates for weekday and weekend conditions for the project uses. This demand estimate does not account for the reduced demand due to shared parking between land uses. The parking demand rates include site residents, employees, customers, and visitors. Not accounting for shared parking and assuming that each use would have its own exclusive parking supply, it is estimated that the peak parking demand for the site would be about 160 parking spaces on weekdays, which is slightly higher than the City Code requirements, and 91 spaces on the weekend. The weekday parking demand without shared parking would peak during typical office use hours between 9:00 AM and 5:00 PM when the non-residential parking is in high demand.

Parking Demand with Shared Parking

Table 2 also shows the peak parking demand accounting for shared parking. This analysis assumes that the project would reserve 31 spaces for the sole use of residential units at all times of day. All other parking would be available for all residents, employees, customers, and visitors at the site.



Table 2: Parking Demand without and with Shared Parking

Land Use	Size ¹	Parking Demand Rate ¹		Maximum Parking Demand	
		Weekday	Weekend	Weekday	Weekend
<i>Parking Demand without Shared Parking</i>					
Office	17,610 sf	3.80 per ksf	0.38 per ksf	68	7
Retail (<400ksf) ²	4,864 sf	3.60 per ksf	4.00 per ksf	18	19
Bank (Drive-in Branch)	3,574 sf	6.00 per ksf	4.75 per ksf	21	17
Medical/Dental Office ³	1,554 sf	4.60 per ksf	0 per ksf	7	0
Fast Casual/Fast Food ⁴	870 sf	14.40 per ksf	14.70 per ksf	13	13
Studio, Suburban Residential ⁵	12 DU	0.95 per DU	1.00 per DU	11	12
1 Bedroom, Suburban Residential ⁵	11 DU	1.00 per DU	1.05 per DU	11	12
2 Bedroom, Suburban Residential ⁵	6 DU	1.75 per DU	1.80 per DU	11	11
Total				160	91
<i>Parking Demand with Shared Parking</i>					
All Land Uses, Typical Conditions				139	86
Parking Provided				123	123
Parking Surplus or (Deficit) from Typical Parking Demand				(16)	37

Notes:

1. DU = dwelling units, sf = square feet, ksf = 1,000 square feet.
2. Existing locksmith, nail salon, hair salon, and massage businesses
3. Existing dental office
4. Existing donut shop
5. Proposed residential uses

Source: Fehr & Peers, 2021.

Figures 1 and 2 show the peak parking demand by month for weekdays and weekends with shared parking, respectively. It is estimated that shared parking would reduce the peak demand for the project by about 15 percent to approximately 139 spaces on weekdays and 86 spaces on weekends under typical conditions. **Figure 3** shows the daily parking demand by hour for weekdays with shared parking in a typical month. Similar to parking demand without shared parking, parking demand with shared parking is estimated to be highest during the typical weekday hours for office use, and would exceed the project parking supply from approximately 10:00 AM to 5:00 PM, with a drop in demand from 12:00 PM to 1:00 PM.

The project would include 123 parking spaces, resulting in an estimated deficit of around 16 spaces from the peak parking demand of 139 spaces on weekdays. The next section describes TDM measures that could be applied to the project to further reduce parking demand.



Figure 1: Weekday Month-by-Month Estimated Parking Demand with Shared Parking

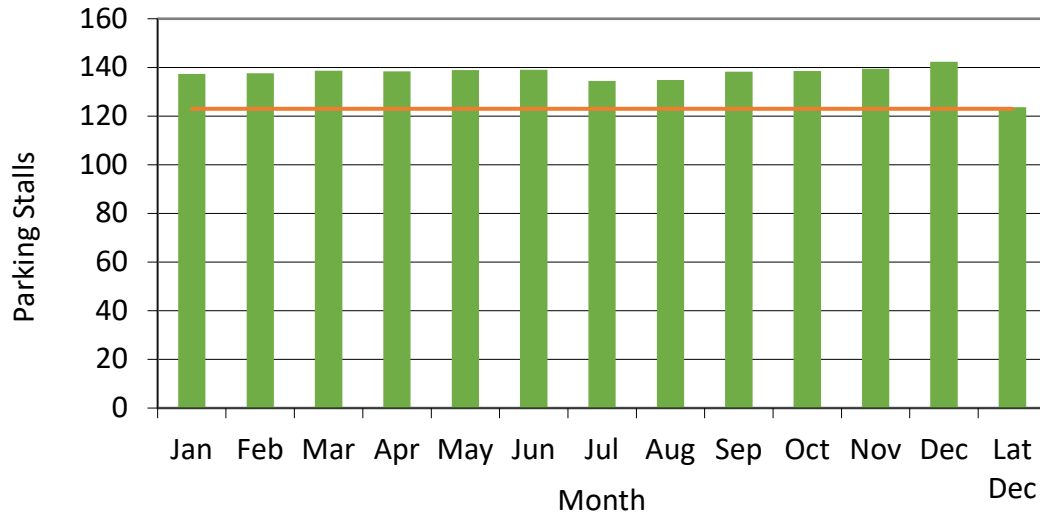


Figure 2: Weekend Month-by-Month Estimated Parking Demand with Shared Parking

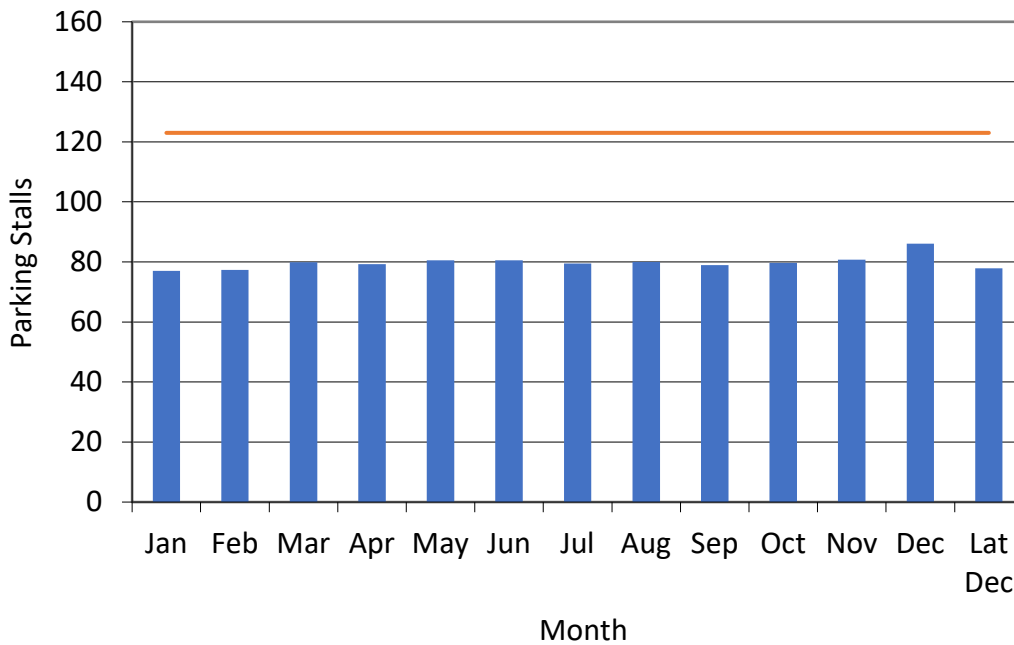
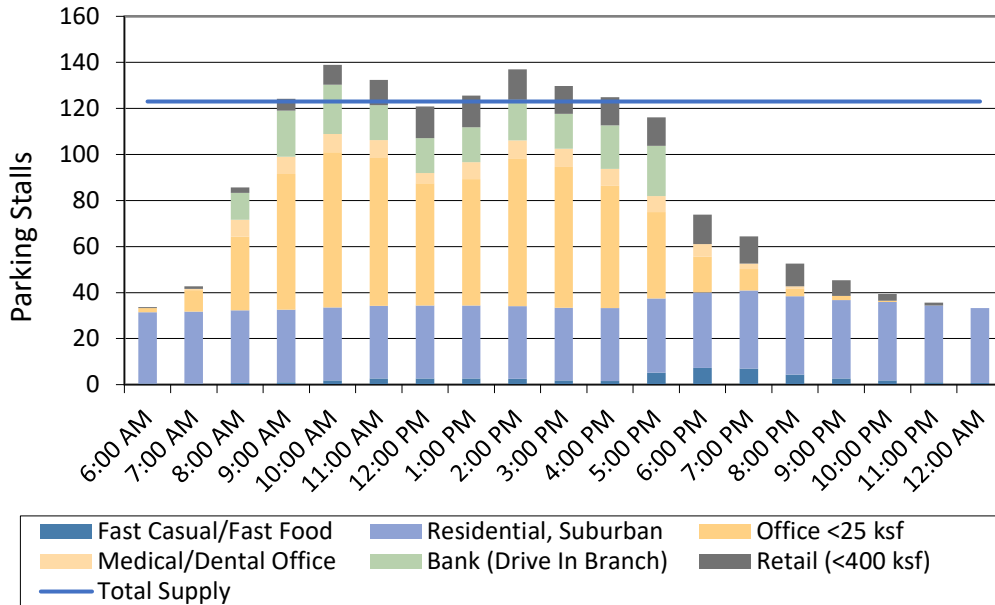




Figure 3: Weekday Daily Estimated Parking Demand by Hour with Shared Parking, Typical Month



Transportation Demand Management (TDM)

TDM refers to strategies that motivate alternatives to automobile travel, either through positive incentives for walking, biking, and transit, or through adding additional cost to automobile use at the project site. The project is located in a suburban area along a commercial corridor with low-density housing, shopping centers, and a high school nearby. It is served by the following WestCAT bus routes:

- Route 16, which operates at two buses per hour during peak commute periods, connects the project area to the Richmond Parkway Transit Center and residential areas east of the project. The nearest bus stops to the project are on Pinole Valley Road, at Estates Avenue, about 0.1 mile from the project site.
- Route JPX, which operates at four buses per hour during peak commute periods (pre-COVID), connects Pinole and Hercules to the El Cerrito del Norte BART Station. The nearest bus stops to the project are on Pinole Valley Road just south of Henry Avenue, about 0.4 mile from the project site.

While the project is along a commercial corridor with transit, the characteristics of the surrounding area suggest that there will be relatively high rates of vehicle ownership and driving to work compared to the Bay Area as a whole. **Table 3** summarizes the transportation mode split for employed residents' journey to work, and **Table 4** summarizes vehicle ownership for



households for the census tract where the project is located, and compares them to the nine-county Bay Area regional averages.

Table 3: Means of Transportation to Work

Commute Mode	Project Census Tract (Tract 3592.02)	9-County Bay Area
Drove Alone	82%	62%
Carpooled	7%	10%
Public Transportation	4%	14%
Bicycle	0%	2%
Walk	0%	4%
Worked from Home	2%	6%
Other ¹	5%	2%

Notes:

1. Includes taxicab and "Other means"

Source: American Community Survey (ACS), 2014-2018; Fehr & Peers, 2021.

Table 4: Vehicle Ownership

Household Vehicle Ownership	Project Census Tract (Tract 3592.02)	9-County Bay Area
No vehicle available	5%	11%
1 vehicle available	17%	32%
2 vehicles available	44%	35%
3 or more vehicles available	34%	22%

Source: American Community Survey (ACS), 2014-2018; Fehr & Peers, 2021.

About 95 percent of households in the area own one or more vehicles, and about 89 percent report either driving to work or carpooling. About four percent of residents report using public transportation to commute, almost entirely via BART, while five percent use other unspecified means of transportation. This is a higher rate of driving and lower rate of public transportation use compared to the nine-county Bay Area, suggesting that there are fewer alternatives to driving in Pinole at this time and that TDM may be less effective that it might be elsewhere.

Table 5 shows potential TDM measures and their estimated trip reduction effectiveness based on research primarily compiled in Quantifying Greenhouse Gas Mitigation Measures (California Air Pollution Control Officers Association (CAPCOA), August 2010). This report is a resource for local agencies to quantify the benefit, in terms of reduced travel demand, of implementing various TDM strategies. Trip reduction, especially for office and retail uses, would be directly related to reduced parking demand for the project. For the residential uses, while various TDM incentives



may reduce parking demand, people may also want to own cars for non-work trips even if they use transit to travel to work.

Table 5: Potential TDM Measures

TDM Measure	Description	Estimated Vehicle Trip Reduction ¹	
		Residents	Employees
Parking fees for employees	Charge for employee parking.	N/A	1-5%
Unbundled parking	Reserved parking at an additional cost for residents. Alternatively, provide a free parking pass for the first car and charge for the second car.	1-5%	N/A
Transit incentive	Provide a certain amount of transit value per month which could be used for buses or BART (the more flexible option), or WestCAT passes. Employees and/or residents who receive the transit incentive would not be eligible for parking passes.	1-5%	1-5%
Car share	Reserve one or more spaces for a car share service, and potentially cover the annual membership cost.	<1%	<1%
Bicycle benefit	Provide a pre-tax bicycle benefit to employees (up to \$20 per month per the IRS), and/or offer free bicycles to residents	<1%	<1%
Transportation Network Company (TNC, e.g. Lyft or Uber) benefit	Provide a certain amount of value per month to residents which could be used for TNC rides. Residents who receive the TNC incentive would not be eligible for parking passes.	<1%	N/A
Total		2-10%	2-10%

Notes:

1. The focus of the CAPCOA document is reductions to VMT but the research used to generate the reductions also indicates vehicle trip reductions are applicable as well. See the cited CAPCOA research for more information and related information on page 8 of the BAAQMD *Transportation Demand Management Tool User's Guide* (June 2012)

Source: Fehr & Peers, 2021.

Together, the TDM measures could reduce parking demand between two and ten percent (3 to 14 spaces), which would reduce the parking deficit to as few as two spaces. This potential deficit could be accommodated through strategies such as providing off-site parking within walking distance of the project or on-site attendant parking. Currently, the project has a signed agreement with the adjacent Pinole Valley Community Church (2885 Pinole Valley Road) to use up to six parking spaces on weekdays from 8:30 AM to 5:00 PM, which combined with the implementation of shared parking and the TDM measures described above, could meet the estimated on-site parking demand.



Since the parking demand is expected to exceed the available on-site parking supply during the weekday business hours and most of the parking demand during these times would be by the site's office employees, it is recommended that the off-site or attendant parking be allocated to employee parking. Furthermore, it is estimated that the proposed on-site parking supply would meet the project parking demand when 100 percent of the residential units and the retail/commercial spaces and about 75 percent of the office space is occupied. Thus, it is recommended that a parking occupancy survey be conducted at the site when about 50 percent of the office space is occupied to document the actual parking characteristics of the project site and if necessary, determine the appropriate strategies to implement at the site, such as adjustments to the use of the parking spaces at the Pinole Valley Community Church, to ensure that the parking demand generated by the site can be met.

Please contact Sam Tabibnia with questions or comments.