

Mr. Clement Balser Blackpoint Properties, LLC 1129 Industrial Avenue, Suite 205 Petaluma, CA 94952

Focused Traffic Analysis for the Proposed Starbucks at 4620 Highway 12

Dear Mr. Balser;

As requested, W-Trans has prepared a focused traffic analysis relative to the proposed Starbucks at 4620 Highway 12 in the City of Santa Rosa. The purpose of this letter is to address the anticipated trip generation for the project as well as the resulting queueing in the drive-through.

Existing Conditions

The site was most recently occupied by a 3,759 square-foot bank with a service window. The study area consists of Pasta Way, which runs along the frontage of the project site in the City of Santa Rosa. Pasta Way runs north-south and is a private street with one lane in each direction and on-street parking on one side of the street.

Project Description

The proposed project would occupy 2,200 square feet of the existing 3,759 square foot building and convert the use to a coffee shop. The existing drive-through service window for the bank would be converted to a drive-through window for Starbucks. It is understood that the remaining 1,559 square feet would be deed-restricted such that it could not be reused without a new Use Permit. A copy of the site plan is enclosed for reference.

Trip Generation

The anticipated trip generation for the proposed coffee shop was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017 for "Coffee/Donut Shop with Drive-Through Window" (ITE LU 937). Because the site was previously occupied by a bank with drive-up service lanes, the trip generation rates for a "Drive-In Bank" (ITE LU 912) were applied to determine the historical trip generation potential of this prior drive-through use. It is noted that the entire bank floor area was used in this analysis as that is the amount of space that was occupied by the bank, and while 1,559 square feet are not being used for the coffee shop, as they cannot be used for any other uses without further City review, it was assumed that the space would remain vacant and therefore generate no trips.

Pass-by Trips

A large portion of the trips associated with a coffee shop and to a lesser extent, those for a drive-in bank, would be drawn from traffic passing the site and making an interim stop. These vehicle trips are not considered "new," but are instead comprised of drivers who are already driving on the adjacent street system and choose to make an interim stop and are referred to as "pass-by." The percentage of these pass-by trips was developed based on information provided in the *Trip Generation Handbook*, 3rd Edition, 2017. This reference includes pass-by data collected at numerous locations for many land uses, such as the bank and coffee shop uses applied in this traffic analysis. Rates for both the a.m. and p.m. peak periods are available for a bank with a Drive-In window. Per the Handbook the bank land use would have a pass-by rate of 29 percent during the a.m. peak hour and 35 percent during the p.m. peak hour.

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While the *Handbook* does not provide pass-by rates for a Coffee/Donut Shop with Drive-Through Window, there is data for similar land uses like a Fast-Food Restaurant with Drive-Through Window (ITE LU 934) and Coffee/Donut Shop with Drive-Through Window *and No Indoor Seating* (ITE LU 38). For the fast-food establishment, a pass-by rate for the a.m. peak period would be expected to be 49 percent and 50 percent during the p.m. peak period. For the coffee shop, the daily pass-by rate would be about 89 percent. Considering these two uses and their similarity to the proposed project site, pass-by rates of 75 percent for the morning peak hour and 50 percent for the evening peak hour were applied.

Total Project Trip Generation

The proposed coffee shop with a drive-through, after deducting pass-by trips, would be expected to generate an average of 993 trips daily, including 49 trips during the a.m. peak hour and 47 during the p.m. peak hour. Because the site has a historical trip generation associated with the previous bank use, the net increase in trips was also estimated. The proposed coffee shop would generate an average of 711 new trips daily, including 23 trips more than the bank during the morning peak hour but two fewer trips during the evening peak hour compared to the previous use.

Table 1 – Trip Generation Summary Land Use Units Daily AM Peak Hour **PM Peak Hour** Trips Rate Trips Rate Out Rate Trips In Out In **Previous Use** Drive-in Bank 3.76 ksf 100.03 376 9.50 21 15 20.45 77 39 36 38 -25% -94 -29% Pass-by -10 -6 -4 -35% -27 -13 -14 Previous Use Total 282 26 15 11 50 25 25 **Proposed Project** Coffee Shop w/Drive-Thru 2.20 ksf 820.38 1,805 88.99 196 100 96 43.38 95 48 47 -50% -45% -75% -147 -75 -47 Pass-by -812 -72 -24 -23 **Proposed Use Total** 993 49 25 24 48 24 24 Net Change (Proposed-Previous) 711 23 10 13 -2 -1 -1

The expected net trip generation potential for the proposed project as well as the previous use are indicated in Table 1.

Note: ksf = 1,000 square feet

Because the project is expected to generate fewer than 50 peak hour trips, either with or without the trips from the prior use considered, only a focused study is required under the City's *Standard Guidance for the Preparation of Traffic Impact Analysis*.

Vehicle Miles Traveled

Senate Bill (SB) 743 established a change in the metric to be applied to determining transportation impacts associated with development projects. Rather than the delay-based criteria associated with a Level of Service analysis, the increase in vehicle-miles-travelled (VMT) as a result of a project will be the basis for determining environmental impacts. Because the City of Santa Rosa has not yet adopted a standard of significance for evaluating VMT, guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018, was used. VMT screening maps are produced by SCTA refinements to the regional travel demand model continue to be made.

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The shaded areas of the map reflect "screened" locations where the residential VMT per capita is 15 percent or more below the Countywide average, or the employment VMT per worker is 15 percent or more below the Countywide average. The project site location is not within a prescreened area; however, since retail land uses are not based on either employees or residential, OPR's guidance for retail land uses, which covers the proposed coffee shop, were applied.

The OPR Technical Advisory indicates that retail projects should generally be analyzed by examining total VMT, with an increase in total regional VMT being considered a significant impact. In the Technical Advisory section outlining project screening, OPR indicates that *local-serving* retail may generally be presumed to have a less than significant VMT impact and can generally be screened from further VMT analysis. OPR based this presumption on substantial research demonstrating that adding local-serving retail uses typically improves destination accessibility to customers, often reducing trip distances (i.e., the, "miles" in vehicle miles traveled) since customers need to travel shorter distances than they previously did. The total demand for retail in a region also tends to hold steady; adding new local-serving retail typically shifts trips away from another use rather than adding entirely new shopping trips to the region. OPR cites a size of 50,000 square feet or greater as being a potential indicator of regional-serving retail (versus local-serving) that would typically require a quantitative VMT analysis.

Given the proposed coffee shop's location, further consideration was given to how the use could affect regional travel. A key component of this effort is to assess how far customers in surrounding areas must currently drive to reach a drive-through coffee shop. There is an existing Starbucks coffee shop without a drive-through window on the northeast corner of SR 12/Mission Boulevard, across the street from the proposed project. Using online mapping tools, it was determined that the closest drive-through coffee shop is located three miles south of the project. Given the existing proximity of other coffee shop drive-throughs and Starbucks, it is unlikely patrons will drive out of their way to access a location; rather, some existing trips would be rerouted and existing VMT reduced from neighborhoods surrounding the project site. This could potentially lead to a slight reduction in regional VMT. Based on this finding, and consistent with OPR's guidance on local-serving retail, the project is expected to have a less than significant VMT impact.

Drive-Through Operation

Consideration was given to the potential queuing in the drive-through lane for the proposed coffee shop. As indicated on the site plan, the drive-through would have the capacity for eleven vehicles to stack starting from the pick-up window and extending around the building with access to the drive-through lane on Pasta Way. Any more than eleven vehicles would result in vehicles stacking into the parking lot, inhibiting on-site circulation and blocking the project driveway.

To determine the potential queuing for a site, factors such as the arrival rate and service rate are considered. Arrival rate is the expected rate that patrons would arrive at the drive through while the service rate is how many patrons would be served within an hour.

A survey conducted at a Starbucks Café with a drive-through in Sonoma County indicated that 46 percent of all inbound patrons used the drive-through. Based on this data and the expected inbound a.m. peak hour trip generation of 100 trips, the arrival rate would be 46 vehicles per hour. The service rate applied to the analysis was based on data collected at a Starbucks Café with a drive-through in the City of Milpitas. Based on that study, a rate of 48 transactions per hour was applied in the analysis.

Using these rates as determined by studies done at Starbucks Cafés in the Bay Area, the 95th percentile queue was determined to be ten vehicles, which is within the stacking capacity for the site. The 95th-percentile queue is generally applied as the acceptable limit for on-site circulation impacts. Further, based on these assumptions, the average customer would spend approximately seven and a half minutes in the drive-through. This wait time is consistent with "The 2016 Drive-Through Performance Study" conducted by *Quick-Service Restaurant (QSR) Magazine*. The QSR study evaluated drive-through service time associated with 15 food service chains and,

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according to the study, the average wait time at Starbucks, from ordering to exiting the drive-through, was approximately five minutes. The QSR study wait time did not include any time spent in the drive-through prior to ordering, so the longer wait time indicated for this project appears reasonable. The queueing analysis results are enclosed.

Queuing Summary

Given the proposed project's location and the type of proposed land use, it is reasonable to anticipate that most customers will be repeat customers, so if experience has shown that excessive wait times are encountered when the queue exceeds a certain point, arriving customers would likely choose to walk in to order instead. However, if the service rate is better than assumed for this analysis, the wait times will be shorter, and more customers may decide to use the drive-through. Either way, the queue would be expected to remain within the stacking space available.

Conclusions and Recommendations

- Compared to the previous bank use, the proposed coffee shop would be expected to generate 711 more trips daily, with 23 new trips during the morning peak hour and two fewer trips during the evening peak hour compared to the previous use.
- The project would be local-serving, so is expected to have a less-than-significant impact on VMT.
- The existing drive-through stacking space is adequate to store the expected 95th percentile vehicle queue for the proposed change in land use.

We hope this information is adequate to address any questions regarding the anticipated operation of the proposed drive-through. Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

Dalene J. Whitlock, PE, PTOE Senior Principal

DJW/jaw/SRO541.L1

Enclosures: Site Plan; Queuing Calculations





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This survey coordinated, but not performed, by First American Professional Land Services, L.P. Survey obtained from and certified to by a land surveyor licensed in the state property is located.						

Drive Through Queuing Evaluation Worksheet

Project:StarbucksBy:JAWProject No:SR0541Date:9/10/2020

Arrival Rate (veh/hr): 46 Service Rate (veh/hr): 48	No. of Service Points: 1 Queuing Capacity (veh): 11
Probability the System is Empty	10%
Probability the System is Full	6%
Probability of 1 in System	9%
Probability of 2 in System	9%
Probability of 3 in System	9%
Probability of 4 in System	8%
Probability of 5 in System	8%
Probability of 6 in System	8%
Probability of 7 in System	7%
Probability of 8 in System	7%
Probability of 9 in System	7%
Probability of 10 in System	6%
Probability That Customer Waits	90%
Maximum Time Customer Waits	7.5 minutes
Maximum Time Customer Waits To Get To Service	e Point 6.2 minutes
Probability That a Customer Elects Not to Enter th	ne Queue 6%
Average In System	5.4 vehicles
Average Total Length of Vehicles in System	119 feet
95th Percentile in System	10 vehicles
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