Appendix C

Transportation Analysis

MEMORANDUM

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Date: May 17, 2021

Re: Local Transportation Analysis
Delivery Station
1660 Old Bayshore Highway
San Jose, CA 95112

Project Description

The proposed delivery station will be located at 1660 Old Bayshore Highway in San Jose, California. The site is located approximately three (3) miles north of downtown San Jose. Surrounding land use is mainly industrial and warehouse in an urbanized area. The interchange of Oakland Road with US 101 is located approximately one mile southeast of the proposed site and is a Policy Interchange for the US 101/Oakland/Mabury Transportation Development Policy (TDP). City Council Resolution No. 78459, as amended in December 2017, defines the North San Jose Area Development Policy in which this project resides.

The proposed site was previously utilized by Smithfield Foods, Inc. and is currently vacant. The property was comprised of a meat processing plant and warehouse buildings totaling 73,492 square feet. This delivery station project proposes to demolish the existing meat processing plant and convert an existing building in the northeast quadrant of the property into a 23,000 square foot delivery station with a 3,000 square foot office.

California Environmental Quality Act (CEQA) Transportation Analysis

The City of San Jose's Transportation Analysis Policy, Council Policy 5-1, establishes the threshold for transportation impacts under CEQA based on Vehicle Miles Traveled (VMT) in accordance with California Senate Bill 743 (SB 743). Per the City of San Jose, Transportation Analysis Handbook dated April 2020, the proposed industrial square footage of 26,000 square feet will meet the screening criteria for VMT analysis exemption as an industrial small infill project of 30,000 square feet of gross floor area or less; therefore, a CEQA Vehicle Miles Traveled Analysis will not be required.

Project Trip Generation and Distribution

Per the Trip Generation Analysis Memorandum prepared by NV5, dated November 6, 2020, the table below provides a trip generation comparison between the former land use and the proposed delivery station during the normal seasonal operation. As can be seen from Table 1, during normal operations, the proposed delivery station will generate less traffic during the peak hours compared to the former Smithfield meat processing plant and warehouse facility.

Table 1: Pre-Existing and Proposed Trip Comparison

Project Land Use		Project Density	Project Trips		
			Total	Inbound	Outbound
Pre-Existing Condition		73,492 SF			
Meat Processing Plant	Daily		392	196	196
ITE Land Use Code 140	AM Peak Hour		46	35	11
Manufacturing	PM Peak Hour		49	15	34
Proposed Condition		26,000 SF			
Delivery Station	Daily		574	287	287
User Defined - See Attachment A	AM Peak Hour		1	0	1
	PM Peak Hour		35	23	12
DIFFERENCE	**Daily**		**182**	**91**	**91**
	AM Peak Hour		**(45)**	**(35)**	**(10)**
	PM Peak Hour		**(14)**	**8**	**(22)**

Per the proposed site and circulation plan, as shown in Figures 3 and 4 on the following pages, there are four (4) proposed driveways along Old Bayshore Highway; Driveway 1 being the westernmost, and proceeding east to Driveways 2, 3, and then 4 (noted D1, D2, D3, and D4 in Figures 3 and 4). Based on the site-specific trip generation, and proposed site circulation, D1 is an entrance only and will accommodate 34% inbound trips, D2 is exit only and will accommodate 34% outbound trips, 15% of the trips will enter D3 and 15% will exit, and 1% of the total trips will enter D4 and 1% will exit.

Intersection Operation Analysis

Per coordination with the City of San Jose, Development Services Division, and the limited difference in pre-existing and proposed trips, the project is not expected to add a measureable number of vehicle trips to study area signalized intersections. Therefore, intersection operation analysis is not required.

Since the proposed land use is expected to generate less trips during the PM peak hour compared to the pre-existing land use, as shown in Table 1 above, it can be concluded that the proposed delivery station will not add any new PM peak hour trips to the surrounding roadway network. As a result, the proposed site trips should be exempt from any traffic impact fee related to the US 101/Oakland/Mabury TDP.

In addition, since the project will be converting existing building square footage and not constructing any new building square footage, the proposed site would be exempt from any traffic impact fees, transportation demand management (TDM) measures, and/or infrastructure improvements that would be required as part of the North San Jose Area Development Policy.

Field Observations

A field review of the local transportation system and area within one-half mile of the proposed site was conducted on Thursday, February, 4, 2021, within the typical PM peak travel hours of 4:00-6:00 PM. Vehicle traffic was the predominant mode of travel, with very little bicycle traffic, and even fewer pedestrians observed. In walking the half-mile radius around the proposed site, pedestrian accommodations such as ADA curb ramps, marked crossings, signalized crossings, etc. were incongruent and few interconnections exist to allow for pedestrians to traverse within the study area. Designated Class II bike lanes are present along both sides of Old Bayshore Highway. No additional bike lane facilities were observed. No transit accommodations were observed within the one-half mile radius of the site. See Figures 1 and 2 below for photos taken within the site area during the field review.

Figure 1: Pedestrian Crossing Gaps

Figure 2: Sidewalk/ADA Curb Ramp Gaps

Vehicle operations were observed at key locations within the proximate area to identify ramp meter queues and spill back onto local streets, uneven lane demand and usage, sight distance, and overall signalized operations, queueing, and storage lengths.

Site Circulation and Access Analysis

An updated site plan is shown in Figure 3, the proposed site circulation plan is illustrated in Figure 4.

Figure 3: Site Plan

PARKING INFORMATION			
PARKING TYPE		REQUIRED	PROVIDED
INDUCT		2	3
LOADING		11	12
QUEUING		12	12
ASSOCIATE		30	44
SUPPORT		15	16
DSP MANAGERS		8	8
BARRIER FREE		3	3
VAN PERSONAL VEHICLE		24	24
VAN PARKING		96	99
VAN BUFFER		5	5
TOTAL PARKING SPACES (206 REQUIRED): 226			

Figure 4: Site Circulation

D1 will be twenty feet wide and has been relocated to the east, away from the US 101 on/off ramps. D1 will serve as a right-in only for delivery vans and personal vehicles of delivery van drivers from westbound Old Bayshore Highway. D2 will be twenty feet wide and serve as a one-way egress only for same delivery vans and delivery van driver personal vehicles. D2 will operate as right-out only onto Old Bayshore Highway westbound due to an existing double-yellow painted median and future extension of the flexible delineators from the US 101 on/off ramps. D3 will be twenty-six feet wide and will provide full access ingress/egress for employees. Entry to D3 will be restricted to right turns only from westbound Old Bayshore Highway. Eastbound traffic on Old Bayshore Highway is restricted from turning left into D3 due to the existing double yellow striped median. Both left-tum and right-turn movements are permitted for outbound access at D3. A two-way left turn lane begins at the western limit of D3. D4 will provide full access ingress/egress for line haul trucks and is thirty-two feet in width.

The City's standard minimum width for two-way drive aisles where 90-degree parking is provided is 26 feet. The project's drive aisles have a minimum width of 30 feet and are predominantly one-way. Emergency vehicles will be able to access the site via D1, with enough space to circulate and exit the site via D2. An overhead clearance of 14 feet is provided for the proposed overhang with additional space to navigate around the overhang, if needed. Garbage trucks will be able to enter and exit the site without conflict utilizing D4 to access the trash enclosure identified on the site plan. All driveways meet the minimum stopping sight distance requirement provided in Attachment B.

The proposed delivery station will operate 24/7 to support delivery to customer locations between 10:00 AM and 9:00 PM. The delivery station anticipates seven (7) line haul trucks daily, arriving each day primarily between the hours of 10:00 PM and 8:00 AM. Deliveries from the line haul trucks are sorted by delivery routes, placed on movable racks, and staged for dispatch. Forty-five (45) employees will be on-site to support this operation and their shift structure is designed between 2:00 AM and 12:30 PM to mitigate traffic impacts during peak hour periods. Fourteen (14) additional employees will arrive for a second shift between the hours of 6:00 AM and 2:30 PM, and an additional fourteen (14) employees for a third shift between 1:30 PM and 10:00 PM.

Delivery van drivers will being arriving at the site in their personal vehicles at 9:20 AM, and will park their personal vehicle in one of the available 125 van spaces provided by accessing D1, and will locate their assigned van already parked within the same on-site parking area. Beginning at 9:50 AM and ending at 10:50 AM, eighty-six (86) delivery vans will load and depart from the delivery station at a rate of thirty (30) vans every twenty (20) minutes to facilitate a regulated traffic flow into the adjacent roadway network. The first departure of delivery vans will occur at 10:10 AM as designed to mitigate the impact on peak hour travel periods. Approximately eight to ten hours after dispatch, routes are completed and the delivery vans return to the site between 7:10 PM and 8:50 PM. The delivery van drivers park the van onsite in one of the available 125 spaces accessible via D1, and depart the site via their personal vehicle or public transit.

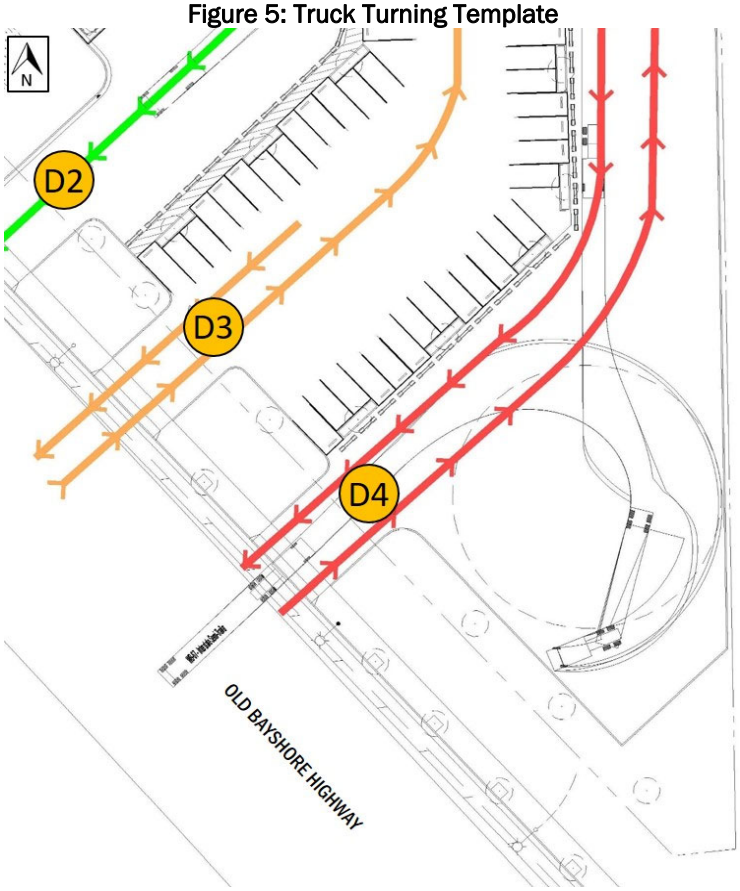
A “Flex” program will be employed at this location which uses independent drivers or deliveries from the delivery station. This site anticipates approximately twenty-three (23) traditional passenger vehicles entering the site via D1 between 4:00 PM and 4:30 PM. These vehicles will load and depart every fifteen minutes beginning at 4:30 PM and ending at 5:30 PM via D2. Approximately ten (10) employees will work in the delivery station to support “Flex” activities, and an additional two (2) employees to support delivery service provider van activities between the hours of 2:00 PM and 6:00 PM and 12:00 PM and 10:30 PM, respectively.

Given the site operations described above, the maximum number of employees and drivers on-site will be ninety-nine (99) between 9:30 AM and 10:00 AM, and there will be a minimum of one (1) employee or driver on-site between 10:30 PM and 2:00 AM. Throughout a twenty-four hour period, the average number of employees and drivers on-site is approximately thirty-seven (37) each thirty minutes of the day.

Operational Analysis

Proposed site operations indicate that the largest line haul truck accessing the site would be a WB-67. These line haul trucks will utilize D4 as shown in Figure 5.

Figure 5: Truck Turning Template



The width of D4 has been revised to accommodate WB-67 turning movements from and onto Old Bayshore Highway to prevent conflicts with other travel lanes or Terminal Avenue as shown in the southeast corner of Figure 4. The internal movements of WB-67 trucks are also illustrated in Figure 5. As shown, line haul trucks would enter D4 and utilize the turn-around space adjacent to the east side of D4 within the site property limits. This turn-around space will allow drivers to enter the site, then turn-around to back into the loading bays. Once finished loading operations, the line haul trucks can depart directly to D4 onto Old Bayshore Highway unencumbered.

Due to the site-specific nature of the proposed traffic generation, and employee shift structures designed to mitigate traffic impacts during peak travel hours, no significant queueing or stacking is anticipated as a result of project related traffic that would exceed pre-existing conditions.

Per the City of San Jose, Class IV protected bike lanes will be implemented on Old Bayshore Highway per the 2025 Better Bike Plan. Under a separate project, a pedestrian rail crossing will be provided at the Old Bayshore Highway/Queens Lane intersection, which would include installing a missing gate arm at the rail crossing and installing updated signs and markings per CAMUTCD. It is expected that this delivery station project will contribute an amount to the Queens Lane pedestrian rail crossing project an amount of $100,000, which is equal to the cost of implementing the Class IV protected bike lanes along Old Bayshore Highway along its frontage.

Parking

Per the City of San Jose Zoning Code, warehouse uses require a minimum of one (1) parking space per 5,000 square feet of gross floor area for warehouses in excess of 25,000 square feet of total gross floor area. Bicycle parking spaces are also required at a number of one (1) per ten (10) full-time employees. Any warehouse facility having a floor area of 10,000 square feet or more shall provide at a minimum one (1) off-street loading space, plus one (1) additional such loading space for each 20,000 square feet of floor area. The site will exceed the 6 off-street total parking spaces required by the City and provide 226 parking spaces, including 12

van loading spaces and 3 freight loading spaces. The parking supply is needed to accommodate employees, delivery vans, the delivery service partners, and site managers to ensure successful business operations and to avoid vehicles parking off-site.

Transit

During field review, existing transit facilities and services were not observed within a one-half mile radius from the site location. Valley Transit Authority's (VTA) closest bus is Route 60 which is six-tenths of a mile from the project site. Light rail is located just under two miles south of the site. Incongruities in sidewalk connections and pedestrian crossings do not make either of these transit operations accessible for site employees. As part of the VMT reduction strategies for this project, eight (8) bicycle parking spaces are proposed on-site and twenty percent (20%) of employees will be eligible for voluntary travel behavior change programs.

Bicycle and Pedestrian

Within previous sections of this LTA, existing bicycle and pedestrian facilities have been discussed. Due to the numerous inconsistencies in a cohesive multi-modal transportation system within the site area, the Applicant is proposing to add eight (8) bicycle parking spaces on-site, provide employee travel behavior change program assistance, and contribute to the construction of the Queens Lane pedestrian rail crossing. Given the industrial nature surrounding the site, negligible amount of observed pedestrian/bicyclists, and large gaps in pedestrian/bicycle connectivity, no additional contributions or improvements are expected within the project's sphere.

Neighborhood Interface

The project sphere is largely industrial, and no schools were found within one-half mile of the site. Also, very few residential neighborhoods are located near the site.

Mitigations and Improvements

Outside of the on-site improvements, TDM strategies suggested in the VMT analysis, and contribution to the future Queens Lane pedestrian rail crossing project, no other mitigations or improvements are recommended.

Construction Operations

No vehicle travel lane restrictions or closures are proposed during site construction. The bike lane along Old Bayshore Highway westbound will need to be closed for curb and gutter construction along the site frontage. Appropriate bike lane closure and detour will be instituted as part of the work zone traffic control plans for construction.

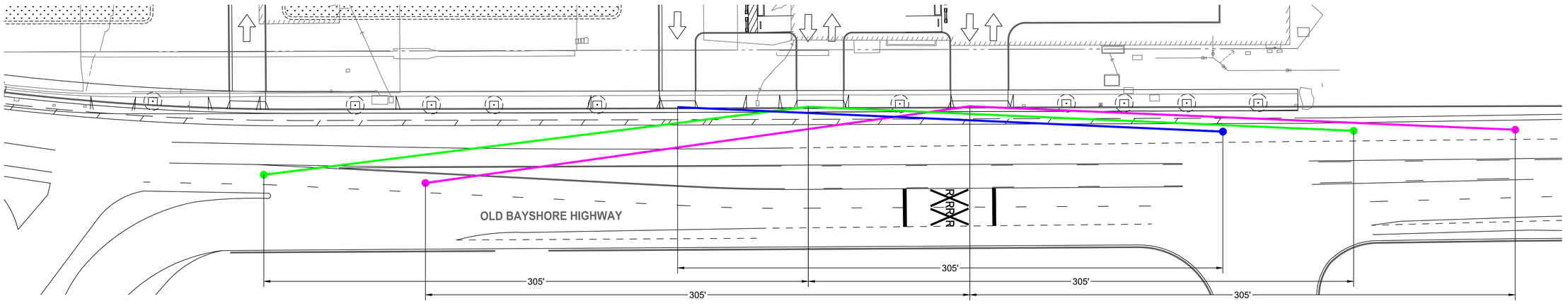
Attachment A
Site Specific Trip Generation Schedule / Old Bayshore Highway 2019 ADT

1660 Old Bayshore Highway in San Jose, CA

	Autos			Trucks			Vans			Total		
Time	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
00:00	0	0	0	0	0	0	0	0	0	0	0	0
01:00	45	0	45	1	0	1	0	0	0	46	0	46
02:00	0	0	0	0	1	1	0	0	0	0	1	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	1	2	0	0	0	1	1	2
05:00	14	0	14	0	0	0	0	0	0	14	0	14
06:00	0	0	0	1	0	1	0	0	0	1	0	1
07:00	0	0	0	0	1	1	0	0	0	0	1	1
07:30	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0
09:00	50	0	50	1	0	1	0	0	0	51	0	51
10:00	36	0	36	0	1	1	0	86	86	36	87	123
11:00	2	0	2	0	0	0	0	0	0	2	0	2
12:00	0	45	45	0	0	0	0	0	0	0	45	45
13:00	24	0	24	0	0	0	0	0	0	24	0	24
14:00	0	14	14	0	0	0	0	0	0	0	14	14
15:00	0	0	0	0	0	0	0	0	0	0	0	0
16:00	23	0	23	0	0	0	0	0	0	23	0	23
16:30	0	12	12	0	0	0	0	0	0	0	12	12
17:00	0	11	11	0	0	0	0	0	0	0	11	11
17:30	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	10	10	1	0	1	0	0	0	1	10	11
19:00	0	24	24	0	1	1	47	0	47	47	25	72
20:00	0	57	57	1	0	1	39	0	39	40	57	97
21:00	0	5	5	0	1	1	0	0	0	0	6	6
22:00	0	16	16	1	0	1	0	0	0	1	16	17
23:00	0	0	0	0	1	1	0	0	0	0	1	1
Total	**194**	**194**	**388**	**7**	**7**	**14**	**86**	**86**	**172**	**287**	**287**	**574**

1st Shift:	2:00 AM	12:30 PM	45	Assoc.
2nd Shift:	6:00 AM	2:30 PM	14	Assoc.
3rd Shift:	1:30 PM	10:00 PM	14	Assoc.
PFSD Shift:	2:00 PM	6:00 PM	10	Assoc.
RTS Shift:	12:00 PM	10:30 PM	2	Assoc.
Drivers:	9:20 AM	8:50 PM	86	Drivers

Attachment B
Driveway Stopping Sight Distance



Speed (MPH)*	Stopping Sight Distance (ft.)	Design Intersection Sight Distance (ft.)
25	155	280
30	200	335
35	250	390
40	305	445
45	360	500
50	425	555
55	495	610
60	570	665
65	645	720

Source: *A Policy on Geometric Design of Highway and Streets*, 5th Edition, American Association of State Highway and Trasportation Officials (AASHTO), 2004.

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

NV5

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DATE: 5-4-21
DRAWN BY: AK

SCALE: 1" = 30'
PROJECT NO.: 2020097.79

REVISIONS

NO	DATE	REMARKS
1		
2		
3		
4		
5		
6		

DFA3

SAN JOSE, CALIFORNIA

SIGHT DISTANCE
OLD BAYSHORE HIGHWAY