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SUPPLEMENTAL RESPONSES TO CEC STAFF DATA REQUEST SET 1 (33)

Gilroy Backup Generating Facility (20-SPPE-03)

SUBMITTED TO: CALIFORNIA ENERGY COMMISSION
SUBMITTED BY: **Amazon Data Services, Inc.**

September 13, 2021

DAYZEN LLC

INTRODUCTION

Attached is Amazon Data Services, Inc. (ADS) supplemental response to California Energy Commission (CEC) Staff Data Request Set No. 33, a complete VMT Analysis and Proposed Mitigation Measure for the Gilroy Backup Generation Facility (GBGF) Application for Small Power Plant Exemption (SPPE) (20-SPPE-03). ADS and its consultant team worked with the City of Gilroy to develop the VMT Assessment and a copy of the complete analysis and proposed mitigation measure has been submitted separately to the City of Gilroy for comment.

ADS proposes the Mitigation Measure identified in Attachment A to the report to be included in the Draft EIR either as a Mitigation Measure or as a Project Design Measure. With the implementation of the measure, VMT impacts will be less than significant.

ATTACHMENT TRANS DR-33

Fehr & Peers VMT Assessment

FEHR PEERS

Memorandum

Date: September 10, 2021

To: Scott Galati, DayZen LLC

From: Daniel Rubins and Robert Eckols, Fehr & Peers

Subject: Gilroy Data Center – VMT Assessment

SJ21-2051

This memorandum summarizes a vehicle miles traveled (VMT) assessment for the Gilroy Data Center. As discussed below, the VMT assessment uses home-based work (e.g., commute) VMT to evaluate the Project's direct impact on the environment.

Project Description

The Gilroy Data Center (the Project) site is located at the southern end of the Camino Arroyo in Gilroy, California. The Project will construct two data centers totaling approximately 438,500 square feet in two phases. Phase 1 will include a single-story data center building of approximately 218,000 square feet, including approximately 10,000 square feet of administrative office employee amenity space. Phase 1 will also include the construction of a 2,500 square foot security building. Phase 2 will construct a similar single-story data center building of approximately 218,000 square feet (supported by the office building built in Phase 1).

Based on information provided by the applicant, the employment is expected to include 25 employees to operate the data center and 37 contract workers to assemble the data equipment, and secure and maintain the buildings. The site will be staffed 24 hours a day with the following estimated employee assignments after buildout of the data centers:

- Operate the Data Center (25 employees)
    - 21 employees will be assigned to shifts from 6:00 AM to 6:00 PM.
    - 4 employees will be assigned to shifts from 6:00 PM to 6:00 AM.

- Assemble the Data Equipment and Secure/Maintain the Buildings (37 employees)
    - 24 contract employees will be assigned to shifts from 7:00 AM to 3:00 PM.
    - 8 contract employees will be assigned to shifts from 3:00 PM to 11:00 PM.
    - 5 contract employees will be assigned to shifts from 11:00PM to 7:00 AM.

Overview of Methods

How transportation impacts under the California Environmental Quality Act (CEQA) are analyzed was changed with Senate Bill (SB) 743. SB 743 removed the use of automobile delay related to traffic congestion for determining transportation impacts in environmental review. Instead, the latest *CEQA Statute & Guidelines* now specify that vehicle miles traveled, or VMT, is the appropriate metric to evaluate transportation impacts. In short, SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving. To comply with these new rules, the City of Gilroy is developing a set of VMT methods and procedures that are to be applied to land use projects in the City.

Further, the California Energy Commission (the lead agency evaluating the proposed data center project) is pursuing an environmental analysis to support granting a Small Power Plant Exemption (SPPE) to the project from its exclusive siting jurisdiction. While the California Energy Commission (CEC) is the lead agency, they typically prepare, or rely on, a transportation analysis consistent with the local jurisdictions analysis methods. Because this Project has a unique requirement by the lead agency that does not allow an unmitigated VMT impact finding, the project will include a detailed VMT mitigation approach that includes future monitoring.

Approach

The VMT impact assessment considers the Project's direct impact relative to home-based work VMT per employee. The home-based work VMT per employee is the metric used to determine if the project is in a low VMT generating area and what VMT mitigation measures are needed. Home-based work VMT per employee is used to evaluate if the VMT rate due to the Project is greater than a specified VMT threshold. In this case, the threshold is defined as 15 percent below Gilroy's city-wide home-based work VMT per employee baseline under Existing Conditions. This analysis approach does not evaluate all VMT generated by the project.

A low VMT generating project is defined as one where the home-based work VMT per employee under Existing with Project Conditions is below the VMT impact threshold. The rationale behind a low-VMT generating project is that future employees would generate new VMT, but it would have the net benefit of incrementally reducing the city's home-based work VMT rate compared to locating the project in another location (area). Therefore, the mitigation approach will be designed so that the project is a low VMT generating project.

Overview of Methods

As a part of this VMT analysis and mitigation process the following steps were taken to establish SB 743 VMT thresholds:

- Select a VMT calculation tool
    - Use the City of Gilroy travel forecasting model.
- Select the VMT accounting method(s)
    - Home-Based Work VMT per Employee: The sum of the "VMT from" and "VMT to" and within the project site/City under baseline conditions divided by the sum of the employees on the project site/City.
- Calculate the baseline city VMT estimates
    - The home-based work VMT per employee analysis presented here uses VMT from the home-based work trip purpose and light-duty vehicle types (i.e., there is no separation of VMT by land use) for the project site and City of Gilroy. A baseline is set as Existing Conditions home-based work VMT per employee generation rate by the City of Gilroy (see the Project Generated VMT Estimation Method section for detailed descriptions.)
- Set a VMT threshold(s)
    - The threshold applied to home-based VMT per employee is 15 percent below the Existing Conditions for City of Gilroy.[1]

Home-Based Work VMT Estimation Method

The home-based work VMT metric for the project site is calculated by summing the "VMT from" and "VMT to" the project site for light-duty vehicles. These calculations are usually performed using outputs from a travel forecasting model. Most travel forecasting models will output information on the project generated VMT associated with the land use in each transportation analysis zone (TAZ); that total is typically as follows:

[1] The City of Gilroy has selected the 15 percent reduction relative to City of Gilroy based on the OPR *Technical Advisory*, which states "…OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold." (Quote from page 10 of the *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018).

$$Home\ Based\ Work\ VMT = (II + IX) + (II + XI) = 2 * II + IX + XI$$

- Internal-internal (II): The full length of all trips made entirely within the geographic area limits.
- Internal-external (IX): The full length of all trips with an origin within the geographic area and destination outside of the area.
- External-internal (XI): The full length of all trips with an origin outside of the geographic area and destination within the area.

The intra-zonal VMT and VMT between traffic analysis zones, or TAZs, that are in the study area causes some double counting, which is an expected result when summing the trip end based VMT. To ensure a VMT rate is expressed properly (i.e., that the numerator and denominator include the generators of both trip ends of the VMT), the home-based work VMT is divided by employees to develop a VMT rate. The Gilroy travel forecasting model does truncate vehicle trips along SR 152 east of Gilroy at the Santa Clara County boarder; therefore, any VMT monitoring would need to adjust vehicle trip observations that use SR 152 to allow proper comparison to the home-based work VMT per employee threshold.

VMT Thresholds

Project Generated VMT Impact Thresholds and Impact Criteria

Based on the *Gilroy 2040 General Plan Draft Environmental Impact Report* (EIR) (June 2020), the City of Gilroy used a threshold of 15 percent below the City of Gilroy's home-based work VMT per employee under Existing Conditions. The Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) suggests a similar threshold for residential and office/industrial land uses (i.e., 15 percent below VMT in a geographic area). As shown in **Table 1** the threshold applied in this assessment is 15% below the City of Gilroy home-based work VMT per employee rate of 20.14 resulting in a home-based work VMT per employee threshold of 17.12. (20.14 x 85% = 17.12).[2]

[2] City of Gilroy home-based work VMT per employee rate of 20.14 extracted from the City of Gilroy travel forecasting model provided by City of Gilroy staff on July 21, 2021.

Table 1: VMT Threshold Calculations

Item	Home-Based Work VMT per Employee
Home-Based Work VMT per Employee (A) (City Baseline Value)	20.14
Home-Based Work VMT per Employee Threshold (A*85% = B)	17.12

Notes:
1. Rounded VMT rate to the nearest hundredth.
Source: Fehr & Peers.

Therefore, the Project would cause a potentially significant home-based work VMT per employee impact if:

- The home-based work VMT per employee for the Project is greater than 17.12.

VMT Estimates

The City of Gilroy staff provided the home-based work VMT per employee rate for transportation analysis zones (TAZ) 1526 and 1633 for which the project is located in. Figure 1 shows the location of the project relative to these TAZs.

Figure 1: Location of TAZs 1526 and 1633

TAZ 1526 is generally bounded by US 101 to the west, Arroyo Circle and Camino Circle to the north, and agricultural fields to the east and south. TAZ 1633 is bounded by US 101 to the west, agricultural fields to the north and east, and Gilman Road Camino Arroyo and agricultural fields to

the south. As shown in **Table 2**, the Project would not be in a low VMT generating area because the project is in a transportation analysis zone (TAZ) with a home-based work VMT per employee rate of 21.37 (TAZ 1526) and 21.31 (TAZ 1633) which is greater than the VMT significance threshold. Specifically, the VMT per employee would be approximately 25 percent greater than the VMT threshold for home-based work VMT per employee of 17.12. Therefore, the home-based work VMT per employee would exceed the applicable thresholds and be a potentially significant impact.

Table 2: Home-Based Work VMT Assessment

Item	Project Site (TAZ 1526)	Project Site (TAZ 1633)
Project Site (Using Citywide Office Baseline and TAZ Method)		
Home-Based Work VMT per Employee Threshold	17.12	17.12
Home-Based Work VMT per Employee at Project Site	21.37	21.31
Initial Assessment		
Home-Based Work VMT per Employee Threshold (17.12)	21.37	21.31
(Impact Conclusion)	Potentially Significant	Potentially Significant

Source: Fehr & Peers, 2021.

VMT Reduction Analysis

To have a less than significant VMT impact under CEQA, the Project would need to generate less than 17.12 home-based work VMT per employee. Overall, CAPCOA indicates that projects in suburban areas may be able to achieve up to a 15 percent reduction in VMT.[3] However, achieving this level of reduction requires that the project site is able to have most of its employees commute from Gilroy or carpool from non-Gilroy locations. As an example, if all 62 data center employees were to drive approximately 60 percent would need to live in Gilroy to stay below the VMT threshold. However, if all the daytime employees were to carpool with at least one other employee, approximately 35% of the employees would need to live in Gilroy.

A site-specific Transportation Demand Management (TDM) Plan will be prepared prior to opening day to manage employee traffic and monitor performance standards during typical building operations of the data center. **Attachment A** summarizes the VMT mitigation measure. The

[3] The current standard for calculating VMT reduction efficacy from TDM strategies is the California Air Pollution Control Officer Association (CAPCOA) 2010 report, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA report). This resource evaluates the literature behind several TDM program elements and provides methods for calculating a VMT reduction associated with each.

project applicant expects to develop a Transportation Demand Management Program that achieves the performance standards listed; therefore, the project impact would be less-than-significant.

Small Project

While the data center (Phases 1 & 2) is physically large, it is expected to have fewer than 62 employees, which means the project is likely to generate 836 daily VMT or less (this would be of all VMT generated by the project). The 836 daily VMT is based on the small project screening research presented in **Attachment B**. The small project screening is derived from the California Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) daily estimate of 110 daily vehicle trips for screening small non-residential projects of 10,000 s.f. or less and average trip length data from the California Household Travel Survey. This small daily VMT generator threshold could be used if the data center employee count is low (less than 30 employees) and there are few visitor trips that generate VMT, expected for the operation of the data center Phase I (one building).

Attachment

Attachment A: Project-Specific VMT Mitigation Measure
Attachment B: Small Project Screening for SB 743

Project-Specific VMT Mitigation Measure

A Transportation Demand Management (TDM) Program will be prepared prior to commercial operation of the data center. The TDM Program will manage and monitor Project traffic with the primary performance standard of achieving less than 17.12 home-based work VMT per employee. If the project owner also participates in a Mitigation Exchange Program, the equivalent off-site VMT reduction obtained by the Mitigation Exchange Program shall be used as an offset and count towards meeting the performance standard of 17.12 home-based work VMT per employee.

To evaluate the effectiveness of the TDM program, the Project site will be monitored annually. The monitoring will include the following site specific performance measures:

- mode share (solo-drivers, carpool, transit, bicycle, walk, etc.),
- average vehicle occupancy (persons per vehicle) and
- average vehicle distance (trip length) of the Project employees.

These site specific performance measures will be used to determine the effectiveness of TDM Program and, if needed, help identify additional TDM measures that will reduce VMT. A small daily VMT generator threshold of 836 daily VMT or less could be used as an alternate performance standard if the data center employee count is low (fewer than approximately 30 employees) and there are few visitors generating VMT, expected for the operation of the data center Phase I (one building).

The TDM Program shall reduce the number of Project vehicle trips by shifting employees and visitors to the site from driving alone to other modes such as transit, carpooling, cycling, and walking. The TDM Program may include specific measures, strategies, incentives, and policies to accomplish the needed trip and VMT reduction. As documented in the development agreement (or conditions of use), the TDM Program obligation is for the lifetime of the Project. The TDM Program may include a phased implementation approach that provides an initial set of TDM Programs targeted to reduce employee vehicle travel. However, the Project applicant may need to expand the TDM Program to meet the specified VMT reduction. The lead agency shall have the authority and discretion to allow the modification of the TDM measures if the modified TDM Program achieves the overall VMT reduction objective.

Transportation Demand Management Program Mitigation

The TDM Program will address the following objectives:

- Reduce the overall number of automobile trips to and from the project.
- Reduce automobile dependency for project employees through education, assistance, and incentives.

- Identify the optimal locations for bicycle parking spaces for employees to promote bicycle use.

To the extent possible, the TDM Program will promote having project employees and contractors live close to the Project site and traveling by non-vehicle modes. At a minimum, the following measures will be in place upon occupancy of the Project:

- Encourage Telecommuting and Alternative Work Schedules: This strategy relies on effective internet access and speeds to individual project sites/buildings to provide the opportunity for telecommuting.
- Provide Ride-Sharing Programs: This strategy focuses on encouraging carpooling and vanpooling by project site/building tenants.
- Provide Local Shuttles: This strategy focuses on providing local shuttle service to transit hubs and commercial centers to improve transit connectivity and address the "first/last mile" travel to/from the project. Alternatively, a demand-responsive service could be provided as subsidized trips by contracting to private ride hailing or taxis services.
- Provide Employer or Contract-Sponsored Vanpool/Shuttle: This strategy relies on employers purchasing or leasing vans or shuttles, and often subsidizing the cost of at least program administration, if not more. Vanpools typically service employee's commute to work, while shuttles service nearby transit stations and surrounding commercial centers. Scheduling and rider charges (if any) are within the employer's purview.

Monitoring

Once a year, the Project would be monitored under typical operating conditions to ensure that the Project employees and visitors meet the VMT performance standard (home-based work VMT per employee). Data on commute travel including mode share, average vehicle occupancy and average vehicle distance will be collected. If fewer than 30 employees are present on-site, an alternate performance measure could be total project generated VMT, which includes travel of all vehicles to/from the project site. An annual monitoring memorandum will be prepared documenting the data collection and performance standards and it shall be submitted to lead agency staff. If the Project site, is found not to meet the VMT performance standard, additional travel reduction TDM measures will be implemented to achieve the performance standard. The lead agency may propose new TDM strategies that develop over time to further reduce annual home-based work VMT per employee.

Alternative Monitoring Approach

The lead agency may develop a regionwide VMT monitoring program to allow global monitoring of the Project VMT, which may provide cost efficiencies and be a more effective way to track VMT generation. The monitoring program could make use of emerging technologies including location-based services on cell phones and in vehicles to track trip lengths, along with traditional technologies such as driveway traffic counts. If such a program is developed, the Project could participate in the regionwide monitoring to demonstrate performance relative to the Project's VMT target.

Remedial Action

If the TDM Program monitoring results show that the home-based work VMT per employee target is not being met, the TDM Program shall be enhanced to identify replacement and/or additional TDM measures to be implemented. The updated TDM Program shall be submitted to and approved by the lead agency. The updated TDM Program shall identify TDM measures that were considered, but determined to be infeasible or ineffective.

Small Project Screening for SB 743

The following document provides substantial evidence to support the screening on 'small' projects for SB 743 purposes. The California Office of Planning and Research *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) relies on a trip trigger based on *CEQA Statute & Guidelines* exemptions for the screening threshold for small projects as cited below.

> *Screening Threshold for Small Projects*
>
> *Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day[19] generally may be assumed to cause a less-than-significant transportation impact.*
>
> *[19] CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. (CEQA Guidelines, § 15301, subd. (e)(2).) Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single tenant office building, office park, and business park) generate or attract an additional 110-124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.* (Quote from page 12 of the *Technical Advisory: On Evaluating Transportation Impacts* in CEQA, December 2018).

Two potential limitations of this trigger have been identified. First, the trigger is not tied to a VMT estimate. Second, the trigger does not consider residential land uses. To strengthen the evidence, we used specific California Environmental Quality Act (CEQA) exemptions related to residential projects and 2012 California Household Travel Survey (CHTS) household VMT estimates to develop the following modification to the OPR approach. The CEQA exemption sections are provided below in the listed items (a) to (c) and yellow highlighted text for minor land use divisions.

> ***15303. NEW CONSTRUCTION OR CONVERSION OF SMALL STRUCTURES***
>
> *Class 3 consists of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. The numbers of structures described in this section are the maximum allowable on any legal parcel. Examples of this exemption include, but are not limited to:*

(a) One single-family residence, or a second dwelling unit in a residential zone. In urbanized areas, up to three single-family residences may be constructed or converted under this exemption.

(b) A duplex or similar multi-family residential structure, totaling no more than four dwelling units. In urbanized areas, this exemption applies to apartments, duplexes and similar structures designed for not more than six dwelling units.

(c) A store, motel, office, restaurant, or similar structure not involving the use of significant amounts of hazardous substances, and not exceeding 2,500 square feet in floor area. In urbanized areas, the exemption also applies to up to four such commercial buildings not exceeding 10,000 square feet in floor area on sites zoned for such use if not involving the use of significant amounts of hazardous substances where all necessary public services and facilities are available and the surrounding area is not environmentally sensitive.

***Note**: Authority cited: Section 21083, Public Resources Code; Reference: Sections 21084, Public Resources Code.*

15315. MINOR LAND DIVISIONS

Class 15 consists of the division of property in urbanized areas zoned for residential, commercial, or industrial use into four or fewer parcels when the division is in conformance with the General Plan and zoning, no variances or exceptions are required, all services and access to the proposed parcels to local standards are available, the parcel was not involved in a division of a larger parcel within the previous 2 years, and the parcel does not have an average slope greater than 20 percent.

Note: Authority cited: Sections Section 21083, Public Resources Code; Reference: Section 21084, Public Resources Code.

Based on the 2012 CHTS, here are a range of VMT estimates for 2, 4, and 6 units based on the CA average VMT generation per household.

- CA Average – 41.6 VMT per household
  - 2 units = 83.2 VMT per day
  - 4 units = 166.4 VMT per day
  - 6 units = 249.6 VMT per day (urban areas only)

Another option is to rely on the maximum level of development allowed by CEQA exemptions and convert that value to a 'dwelling unit equivalent' measure similar to impact fee programs. OPR estimated that non-residential uses could generate 110-124 daily trips based on a maximum project exemption size of 10,000 square feet (KSF). Using the lower end of the range and CHTS trip lengths produces a VMT equivalent for 10 KSF for CA of 836. This equates to about 20 residential households.