Appendix A

AB 900 Transportation Assessment for San José Downtown West Mixed-Use Plan

AB 900 Transportation Assessment
San Jose Downtown West Mixed-Use Plan
Draft

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NELSON
NYGAARD

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Executive Summary

The Project is a development comprising a mix of land uses including offices, residences, retail (including arts, cultural, educational, and institutional uses), hotel, limited-term corporate accommodations, and an event center. The Project site is immediately adjacent to the San Jose Diridon station in downtown San Jose.

This report describes the modeling undertaken to determine the number of trips and vehicle miles traveled per year over the lifetime of the project. The modeling incorporated trip reductions associated with a variety of location and land use features inherent to the site, and a range of transportation demand management programs. In addition to the Project, a "Comparable Project" was studied in order to compare the project's transportation efficiency.

Through a combination of high quality walkable urbanism, a logistics center, and investment in a comprehensive transportation demand management program, the Project significantly reduces vehicle trips in comparison to the Comparable Project and exceeds the transportation efficiency requirement under AB 900 to achieve a standard of 15 percent or greater for transportation efficiency than comparable projects. The transportation efficiency is determined by the number of vehicle trips generated by the project in relation to the total number of person trips. As shown in Figure 1, the Project achieves a range of 17.7% to 24.4% reduction from a Comparable Project.

Figure 1: Transportation Efficiency by Phase

Project	Phase 1 Transportation Efficiency	Phase 2 Transportation Efficiency	Phase 3 Transportation Efficiency
Variant A	0.447	0.459	0.444
Variant A Comparable	0.568	0.558	0.552
Reduction from Comparable Project	21.2%	17.8%	19.5%
Variant B	0.430	0.459	0.445
Variant B Comparable	0.569	0.558	0.553
Reduction from Comparable Project	24.4%	17.7%	19.4%

Figure 2: Vehicle Miles Traveled by Phase

Project	Phase 1 Vehicle Miles Traveled	Phase 2 Vehicle Miles Traveled	Phase 3 Vehicle Miles Traveled
Variant A	67,306,186	165,908,475	220,737,109
Variant B	54,756,862	166,602,375	216,898,479

See Appendix B for complete table of vehicle miles traveled by year

Project Location

The Project is located immediately adjacent to San Jose Diridon Station in downtown San Jose. The project location is in an area generally bounded by Lenzen Avenue and the Union Pacific railroad tracks to the north; North Montgomery Street, Los Gatos Creek, the Guadalupe River, South Autumn Street, and Royal Avenue to the east; Auzerais Avenue to the south; and Sunol Avenue, Diridon Station and rail tracks to the west.The project also includes the area generally bounded by Los Gatos Creek to the west, San Fernando Street to the south, the Guadalupe River to the east, and Santa Clara Street to the north. As shown in Figure 3, the majority of the site is within a 10-minute walk of the Diridon station, on parcels totaling approximately 80 acres extended almost 1.5 miles in length from north to south and between 500 and 1,800 feet in width.

Diridon Station is San Jose's main transportation hub, bringing together regional rail services (Caltrain, ACE), light rail, and local and regional bus services. In the future the BART system will connect to Diridon from Warm Springs (Fremont) via Berryessa and Alum Rock. These services provide a wide range of transportation choices for people working or living nearby.

Figure 3: Project Location and Conceptual Site Plan

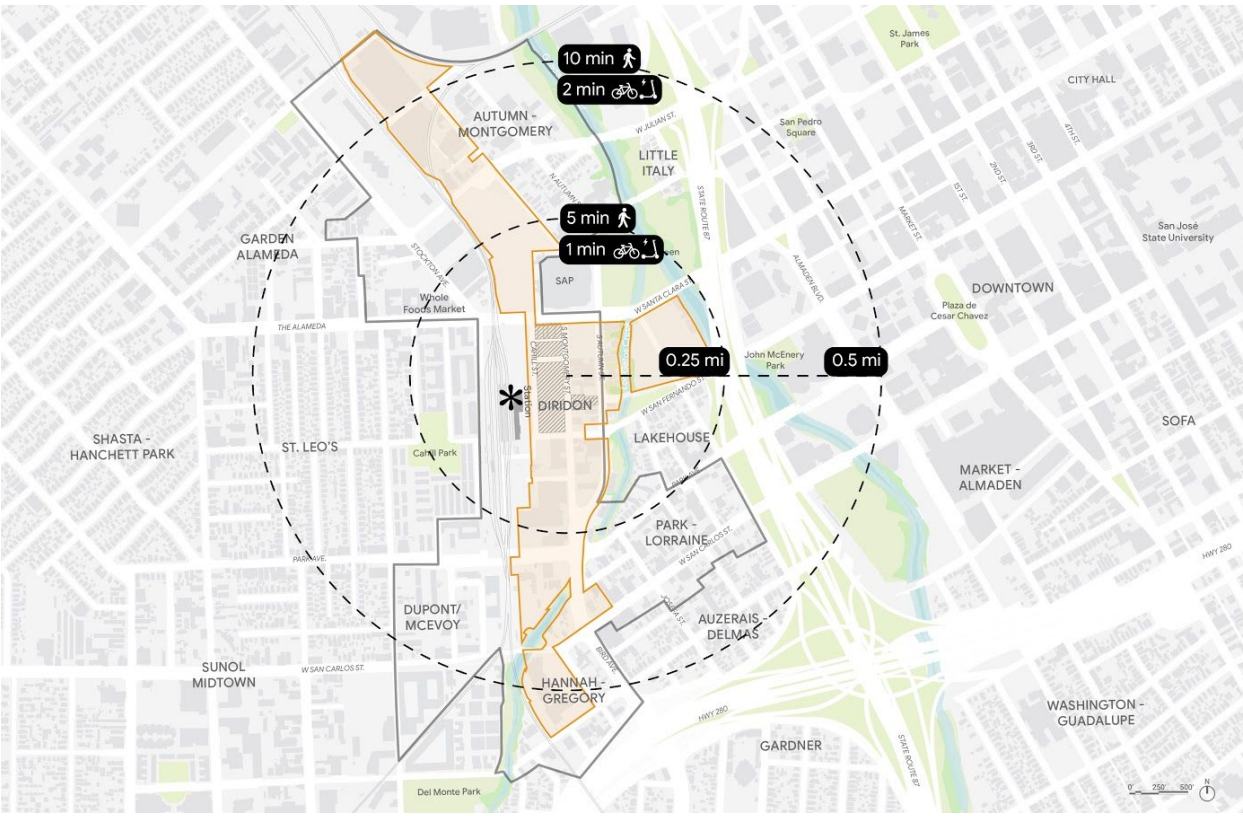

Image: SITELAB Urban Studio

Existing Land Uses on Project Site

The project site contains a mix of existing land uses including mostly light industrial uses, interspersed with smaller amounts of retail, restaurants, and residential.

The existing street network is typical of its low density, light industrial heritage, with many wide, high-speed streets, large block sizes, and large surface parking lots. While some streets have been retrofitted with bicycle facilities, overall street design and low-density creates a less walkable landscape that emphasizes vehicle throughput.

The table in Figure 4 shows the annual trips and vehicle miles traveled associated with existing development, based on City of San Jose trip generation rates and trip lengths by land use and trip type from CalEEMod.

Figure 4: Existing Trips and Vehicle Miles Traveled

Land Use	Annual Trips	Annual VMT
Multifamily buildings	28,470	203,447
Single family homes	10,841	77,466
Commercial	1,417,591	10,856,759
Office	58,333	468,184
Light Industrial	575,941	4,951,943
Land	0*	0*
Surface parking	0**	0**

* Vacant land does not generate any trips.
** Surface parking is assumed not to generate trips. See “Non-Trip Generating Land Uses” below.

Project Description

Two variants of the Project were evaluated, each with similar, but slightly differing, amounts of the following land uses. A table following the land use descriptions summarizes the amounts and phasing of each land use (see Figure 5).

Office

The project includes a range of 5.5 million, up to 7.1 or 7.3 million square feet of office space at full buildout, depending on the variant.

Residential

The residential component includes a range of 3,000, up to 5,700 or 5,900 housing units at full buildout, depending on the variant.

Hotel

The project includes a 300-room hotel on site, in proximity to the office, event center and residential land uses, in addition to offsite land uses such as the SAP center. The project will also include up to 800 rooms of limited-term corporate accommodations. Terms of stay for such accommodations are anticipated to range from short-term (one day, up to a week), to longer-term stays (over a week). For purposes of this analysis, limited-term employee accommodations are conservatively analyzed as hotel use, which generates more trips than residential use.

Retail

The project includes up to 500,000 square feet of active, ground-floor uses to support the office and residential land uses. Active ground-floor uses may include retail, restaurant, arts, cultural, institutional, educational, and small-format office uses. For purposes of this analysis, these uses are conservatively analyzed together as retail use.

Event center

The event center will be a year-round, flexible facility to accommodate a variety of event functions that support Google businesses and local partnerships. Typical events could include: product launches/announcements, corporate meetings, conferences, seminars, small conventions, and screenings. The venue will be located proximal to a large population of the Google San Jose workforce, be in proximity to the SAP Center, and have convenient access to

multiple modes of transportation. Trip assumptions for the event center are based on Google data for a similar event center in Sunnyvale, California.

Non-Trip Generating Land Uses

The site consolidates several services into stand-alone facilities, including a district systems facility (thermal/water utilities) and a consolidated logistics hub for receiving deliveries. These facilities are both anticipated to be 100,000 square feet each. Trip generation rates include all trip types to a given land use, including service and delivery trips. While service and delivery functions are typically integrated into the land use, we have conservatively assumed that consolidated facilities would generate an equal number of trips to integrated facilities. Through efficiencies of scale the actual number of trips generated could be lower for centralized facilities than for distributed systems. The logistics hub is described in greater detail under Project Related Trip Reduction.

In addition, vacant lots and surface parking in the study area are assumed not to generate trips. Trip generation rates are drawn from the City of San Jose Transportation Impact Analysis Guidelines and the Institute of Transportation Engineers Trip Generation Manual. In both of these sources, parking is not considered a trip generating land use because its only function is to serve the associated land use and accommodate the vehicle trips generated by that land use. As part of the project's development, there would be a comprehensive removal and replacement effort for existing parking spaces on-site, resulting in the provision of up to 3,650 public parking stalls. These parking stalls will be public, and are anticipated to continue serving existing offsite uses, in addition to the new uses proposed. The project will have no impact on SAP center operations.

Transportation impacts were modeled based on the project being constructed in three phases, shown below in Figure 5. The phasing is illustrative, and could occur in a different order or concurrently. In order to be conservative, the modeled land use program was selected to be as aggressive and impactful as possible.

Figure 5: Table of Land Uses by Phase

Land Use		Variant A	Variant B	Units
Office	Phase 1 (4 years)	2,600	2,600	thousand gsf
	Phase 2 (4 years)	2,600	2,600	thousand gsf
	Phase 3 (4 years)	2,100	1,900	thousand gsf
Residential	Phase 1 (4 years)	2,000	1,300	Units
	Phase 2 (4 years)	2,300	3,100	Units
	Phase 3 (4 years)	1,600	1,300	Units
Hotel	Phase 1 (4 years)			rooms
	Phase 2 (4 years)			rooms
	Phase 3 (4 years)	300	300	rooms
Limited-term Corporate Accommodations	Phase 1 (4 years)	250	250	rooms
	Phase 2 (4 years)	250	250	rooms
	Phase 3 (4 years)	300	300	rooms
Retail	Phase 1 (4 years)	100	60	thousand gsf
	Phase 2 (4 years)	280	320	thousand gsf
	Phase 3 (4 years)	120	120	thousand gsf
Event Facility	Phase 1 (4 years)			thousand gsf
	Phase 2 (4 years)			thousand gsf
	Phase 3 (4 years)	100	100	thousand gsf

Comparable Project

In order to assess the project's transportation efficiency, a baseline scenario called the Comparable Project was created. The Comparable Project and the Project are assumed to have the same size, mix of land uses, and location. What differentiates the Project from the Comparable Project are Google's commitment to providing its employees with transportation alternatives through transportation demand management programs and support for public transit, its commitment to quality urban design and creating a more fine grained street network, and a consolidated logistics center that would reduce delivery trips.

How each of these features influence travel patterns is explained in the Trip Reduction section below.

Figure 6: Project and Comparable Project Features

Features	Project	Comparable Project
Size	=	=
Land Uses	=	=
Location	=	=
Proximity to transit	=	=
Transportation Demand Management	+	
Quality urban design	+	
Fine-grained street network	+	
Consolidated logistics/district systems	+	

Trip Generation

The Trip Generation Manual by the Institute of Transportation Engineers (ITE) is the industry standard for trip generation rates. However, ITE's trip generation rates are based on sites throughout the country, many of them in suburban locations with no transportation choices beyond driving. These rates give a baseline for the total number of trips generated, but in locations with more transportation choices the ITE recommends adjusting for the presence of transportation alternatives using local mode choice data in order to obtain vehicle trips. Baseline project trip generation was based on the City of San Jose's Transportation Impact Guidelines (2009) to harmonize with the Environmental Impact Analysis. Where the City of San Jose's Transportation Guidelines did not have data, the sources are indicated below.

Figure 7: Trip Generation Rates by Land Use

Land Use	Source	Trip Generation Rates (daily)	Units
Office	San Jose TIA Guidelines 2009	11	trips/1,000 sq.ft.
Residential	San Jose TIA Guidelines 2009	6	trips/unit
Hotel	ITE 310 Hotel, dense multi-use urban, extrapolated from PM peak hour, typically 10% of daily	3.9	trips/room
Retail	San Jose TIA Guidelines 2009	120	trips/1,000 sq.ft.
Event facility	Based on data from an existing Google event space in Sunnyvale	7.5	trips/1,000 sq.ft.

Annual Person and Vehicle Trips

Total person trips were generally modeled in the following way:

$$APT = \Sigma_i(TripGenRate_i \times Units_i) \times Days$$

Where:

- APT = Annual Person Trips, total trips to a land use using all transportation modes
- $TripGenRate_i$ = the trip generation rate for land use i, as described above
- Units = the trip generation rate denominator, typically square feet for commercial uses or units for residential uses
- i = summation index
- Days = Annual working days (240) for non-residential uses, or 365 for residential uses

The total annual vehicle trips were calculated in a similar fashion, but subtracting the various trip reductions as described in the following Trip Reduction section.

$$AVT = \Sigma_i(TripGenRate_i \times Units_i \times (1\text{-}PercentReductions_i) - FixedReductions_i) \times Days$$

Where:

- APT = Annual Person Trips, total trips to a land use using all transportation modes
- $TripGenRate_i$ = the trip generation rate for land use i, as described above
- Units = the trip generation rate denominator, typically square feet for commercial uses or units for residential uses
- $PercentReductions_i$ = reductions applicable to land use i. E.g. internal trip capture, proximity to transit, TDM. See summary in Figure 7 of which reductions apply to which land uses.
- FixedReductions = Reductions where the specific number of trips reduced is known, such as number of employees living onsite in limited term accommodations, or logistics center trips eliminated
- i = summation index
- Days = Annual working days (240) for non-residential uses, or 365 for residential uses

Figure 8: Summary Overview of Trip Generation

Project	Annual Trips Phase 1	Annual Trips Phase 2	Annual Trips Phase 3
Existing Person	1,903,311		
Variant A Person	15,858,000	40,257,000	55,302,600
Variant A Auto	7,095,159	18,470,107	24,573,045
Com. Project A Person	15,858,000	40,257,000	55,302,600
Comp. Project A Auto	9,001,016	22,458,893	30,520,610
Variant B Person	12,573,000	40,476,000	54,336,600
Variant B Auto	5,409,934	18,567,211	24,192,862
Comp. Project B Person	12,573,000	40,476,000	54,009,000
Comp. Project B Auto	7,157,950	22,571,070	29,849,037

See Appendix A for complete annual person and vehicle trips by project year.

Trip Reduction

The Project location, immediately adjacent to the Diridon station and downtown San Jose, leads to a large reduction in auto trips. Diridon station is San Jose's largest transit hub, providing a wide range of regional and local bus and rail transit providers. Further trip reductions are associated with characteristics inherent to the site such as density, the mix of complementary land uses, and pedestrian-friendly urban design. The planned logistics hub to consolidate delivery trips is also captured.

In addition to the trip reduction associated with location and site characteristics, office and residential trips would be reduced through transportation demand management programs. Google's commitment to reducing trips is exemplified at its headquarters in Mountain View. There, in a completely suburban and car-centric context, Google's shuttles attract 31% mode share, a key part of reducing drive-alone rates from an expected 85% to 45%.

The modeling of both types of trip reduction is described in the following sections.

Figure 9 summarizes the total trip reduction from all sources compared to the existing condition auto mode share in the Project's zip code, including reductions from land-use related features of the project, the project's logistics center, and the project's transportation demand management programs.

Figure 9: Summary of Trip Reduction

Type of Reduction	Trip Reduction*
Total Reduction, all sources, Project	44-48%
Total Reduction, all sources, Comparable Project	31-33%

* Varies by phase and land use variant

The table in Figure 10 shows which trip reduction measures apply to the various land use types. Note that the mix of land uses and proximity to transit also apply to the comparable project, but are still included since the Project's attention to urban design and walkability result in greater reductions.

Figure 10: Trip Reductions by Land Use Type

Trip Reduction	Office	Residential	Hotel	Retail	Event Facility
Mix of Land Uses (Internal Trip Capture)	✔ (✔)	✔ (✔)	✔ (✔)	✔ (✔)	✔ (✔)
Proximity to Transit	✔ (✔)	✔ (✔)	✔ (✔)	✔ (✔)	✔ (✔)
TDM	✔	✔			
Limited-term corporate accommodations/ hotel	✔		✔*		✔
Delivery Consolidation	✔				✔

✔ = Project, (✔) = Comparable Project
* reduction for weekday trips only

Mix of Land Uses (Internal Trip Capture)

Internal trip capture refers to vehicle trips avoided through facets of a project development, for example through a mix of compatible land uses within walking distance. The Project achieves internal trip capture both through its mix of land uses, physical design, and provision of on site housing.

Mix of Land Uses

Where a single development contains a mix of different land uses within walking distance, the total number of trips generated by the development may be lower than the sum of trips generated by each land use. The number of trips reduced depends on the exact mix of land uses, since some land uses in combination result in greater efficiency than others. The reduction between land uses also depends on quality urban design and a fine grained network of streets - short blocks with safe and welcoming pedestrian facilities will reduce trips more than a low density area with limited pedestrian facilities. The Project would subdivide some of the existing large blocks with new internal streets, adding up to 16 new intersections to the project area.

The model uses a percentage reduction calculated using the Mixed-Use Trip Generation Tool developed by the EPA[1]. The tool indicates a reduction of 18% in phase 1, 20% in phase 2, and 22% in phase 3.

[1] https://www.epa.gov/smartgrowth/mixed-use-trip-generation-model

For the Comparable Project, which retains the existing low-density parcels and grid, and is less pedestrian friendly, the tool indicates a reduction of 14% in phase 1, 16% in phase 2, and 17% in phase 3.

Employees and Visitors Staying Onsite

In addition to the mix of land uses, it is anticipated that the hotel uses, as well as limited-term corporate accommodations, will largely support the offices and event space on site. Employees and visitors staying at these locations would be within a short walk of their destinations, and therefore would not need to drive to work. No vehicle trips are assumed for these uses.

Proximity to Transit

A walkable development with a mix of uses in close proximity to high-frequency regional transit will see significant reductions in auto trips. According to the CAPCOA quantification report[2], possible trip reduction is strongly correlated with walking distance to the station and ranges from 0.5 - 24.6%. Given the Project's distribution parallel to the north-south rail alignment, the majority of the development is within 0.5 miles of the station. The development closest to the station will experience the greatest reduction, with the uses furthest away seeing less reduction. For the purposes of the analysis, the average distance to the station was taken to be 0.25 mile resulting in an average trip reduction of 17.1%.

Consolidated Logistics Center

The majority of deliveries to the project's office and associated uses will not be delivered directly to the site, but to a nearby logistics center where deliveries from multiple vendors will be consolidated into combined shipments to reduce the number of delivery vehicles to the site. From the onsite delivery hub, deliveries to individual offices would be carried out using small natural gas or electric trucks. According to modeling carried out by Arup, the impact of the consolidated logistics center will be to reduce the number of truck deliveries by approximately 50%, from 1,200 deliveries per day to 600 at full buildout.

This effect was incorporated in the model by subtracting the number of truck trips eliminated from total office trips, prorated by the amount of office provided in each phase, up to a total of 600 trips eliminated.

[2] LUT-5 Transit Proximity, "Quantifying Greenhouse Gas Mitigation Measures", California Air Pollution Control Officers Association, 2010. Note that per introductory language in the report, in applications where trip length is constant, percentage trip reductions equal the percentage reductions in greenhouse gas emissions.

Transportation Demand Management Modeling

Google has a long history of successful transportation demand management programs, achieving drive alone mode shares substantially below the average mode shares at existing campuses in Mountain View and Sunnyvale. Its programs are constantly evolving to adjust to market demands, new technologies, and employee home locations, and will continue to evolve to meet the demands of this project.

The trip reduction potential for each strategy was modeled using data and methodology from the California Air Pollution Officers Association (CAPCOA) “Quantifying Greenhouse Gas Mitigation Measures” (2010). The range of strategies modeled here are illustrative examples of possible ways to achieve the necessary mode splits based on existing Google programs. The modeling demonstrates that there are a variety of transportation demand management strategies that can enable employees to get to work while leaving their cars at home.

Transportation Demand Management Strategies

Office Transportation Demand Management

Strategies that were evaluated and may be part of a future transportation demand management program for office uses include three highly impactful strategies: subsidized transit passes, market-rate workplace parking, and express buses. These core strategies would result in a combined trip reduction of 33%[3]. Beyond the three most impactful strategies studied: additional TDM strategies listed below have had extremely successful results in other Google locations. These are anticipated to be explored at the project. Though are not modeled in this analysis, Google is committed to bringing a full suite of strategies beyond those modeled in this analysis.

- Park + Ride
- Waze carpool
- Commuter bike on-ramp programs
- Emergency Ride Home
- Bikesharing programs
- TDM coordinator
- Reduced parking supply

There are additional supporting strategies, such as TDM program marketing and end-of-trip facilities for cyclists, that might be part of a comprehensive program but their effects are more limited and not included here. The core office TDM strategies are further described below:

[3] Note that trip reduction is not additive, because each strategy reduces the baseline from which the next strategy begins. Hence the total reduction is: 1 - (1-12%)*(1-19.7%)*(1-4.7%) = 33%. (Rather than 12% + 19.7% + 4.7% = 36.4%)

- Transit Passes: Providing subsidized transit passes can be particularly effective for locations such as that of the Project, which is in immediate proximity to high frequency transit and where a large number of employees live within a reasonable distance of transit stops. Based on an analysis of projected employee home locations it would be possible for a large number of employees to commute using transit - around 20% would live within walking distance, and up to 60% live within convenient range if transit passes are combined with subsidized coverage of first/last mile trips. Based on CAPCOA[4], this strategy would result in a 12% reduction in drive alone commute trips.

- Market-Rate Workplace Parking: Free workplace parking, commonplace in the United States, is particularly effective at encouraging employees to drive to work. The project would provide public parking charged at market rates, a powerful trip reduction measure in urban locations with a plethora of transportation choices (a small amount of employer parking is nevertheless anticipated for such uses as expectant mother parking, accessible parking, and the like). Based on CAPCOA[5], this strategy would result in a 19.7% reduction in drive alone commute trips.

- Express Buses: Rapid bus transit could be implemented in several different ways, either through shuttles or through public/private partnerships. Implementing express bus services between Diridon and areas with high densities of employee home locations not easily accessible to existing high-frequency transit could result in up to 4.7% reduction in drive-alone rates[6]. This implementation assumes that express bus routes would not duplicate existing high quality transit options such as BART or Caltrain.

Residential Transportation Demand Management

The residential component of the project will include the following transportation demand management measures:

- Parking ratio of 0.4 spaces/unit (below city requirements and ITE assumptions)
- Unbundled parking
- On-site transportation coordinator
- Marketing - encouragement and incentives to residents

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[4] TRT-4 Subsidized Transit Program, “Quantifying Greenhouse Gas Mitigation Measures”, California Air Pollution Control Officers Association, 2010. Note that per introductory language in the report, in applications where trip length is constant, percentage trip reductions equal the percentage reductions in greenhouse gas emissions.
[5] TRT-14 Price Workplace Parking, “Quantifying Greenhouse Gas Mitigation Measures”, California Air Pollution Control Officers Association, 2010. Note that per introductory language in the report, in applications where trip length is constant, percentage trip reductions equal the percentage reductions in greenhouse gas emissions.
[6] TRT-11 Provide Employer-Sponsored Vanpool/Shuttle, “Quantifying Greenhouse Gas Mitigation Measures”, California Air Pollution Control Officers Association, 2010. Note that per introductory language in the report, in applications where trip length is constant, percentage trip reductions equal the percentage reductions in greenhouse gas emissions.

- Technology-based services to encourage transit, walking, biking
- Transit-pass program
- Car-share subsidy
- Bike storage/parking
- Access to bike share & scooter share

Utilizing the CAPCOA methodologies for parking supply reduction (PDT-1), unbundled parking (PDT-2) and commute trip reduction incentives (TRT-1), the residential transportation demand management program would result in a combined residential trip reduction of 19%.

Transportation Efficiency

Transportation efficiency is a measure of the number of vehicle trips generated by a project in relation to the total number of person trips generated by the project, and is used as a way to compare how successful different projects have been at reducing vehicle trips through programs such as transportation demand management. Transportation efficiency is defined by Assembly Bill 246, the "Environmental Quality: Jobs and Economic Improvement Through Environmental Leadership Act" of 2011 as follows:

> *Section 1, 21180 "(b)(1) A residential, retail, commercial, sports, cultural, entertainment, or recreational use project that is certified as LEED gold or better by the United States Green Building Council and, where applicable, that achieves a 15-percent greater standard for transportation efficiency than for comparable projects."*
>
> *Section 1, 21180 "(c) Transportation efficiency" means the number of vehicle trips by employees, visitors, or customers of the residential, retail, commercial, sports, cultural, entertainment, or recreational use project divided by the total number of employees, visitors, and customers."*[7]

Summary

Figures 11-13, below, summarize the resulting transportation efficiencies for project variants A and B, and the comparable project, through each phases of the project. Note that both variants A and B achieve transportation efficiencies more than 15% below that of the comparable project through all phases of the project.

Figure 11: Transportation Efficiency of Project and Comparable Project, Phase 1

Project	Annual Vehicle Trips	Annual Person Trips	Transportation Efficiency
Variant A	7,095,159	15,858,000	0.447
Comp. Project A	9,001,016	15,858,000	0.568
Reduction from Comp. Project A			21.2%
Variant B	5,409,934	12,573,000	0.430
Comp. Project B	7,157,950	12,573,000	0.569
Reduction from Comp. Project B			24.4%

[7] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB246

Figure 12: Transportation Efficiency of Project and Comparable Project, Phase 2

Project	Annual Vehicle Trips	Annual Person Trips	Transportation Efficiency
Variant A	18,470,107	40,257,000	0.459
Comp. Project A	22,458,893	40,257,000	0.558
Reduction from Comp. Project A			17.8%
Variant B	18,567,211	40,476,000	0.459
Comp. Project B	22,571,070	40,476,000	0.558
Reduction from Comp. Project B			17.7%

Figure 13: Transportation Efficiency of Project and Comparable Project, Phase 3

Project	Annual Vehicle Trips	Annual Person Trips	Transportation Efficiency
Variant A	24,573,045	55,302,600	0.444
Comp. Project A	30,520,610	55,302,600	0.552
Reduction from Comp. Project A			19.5%
Variant B	24,192,862	54,336,600	0.445
Comp. Project B	29,849,037	54,009,000	0.553
Reduction from Comp. Project B			19.4%

Vehicle Miles Traveled

Annual vehicle miles traveled was calculated for each project year based on the above trip generation analysis, and the following methodology. The vehicle miles traveled were utilized by ARUP to calculate annual mobile source greenhouse gas emissions for the Project.

Methodology

Annual vehicle miles traveled was generally calculated as follows for each land use and trip type:

$$VMT = \Sigma_i(AAT \times Dtrip_i)$$

- AAT = Average Annual Trips (trips/year), as described above
- Dtrip = Trip Distance (miles/trip), as described in the following section
- i = summation index for each land use/trip type

Trip Distances

Trip distances for different trip purposes were taken from CalEEMod, however employee commute distances were taken from the Metropolitan Transportation Commission's Plan Bay Area 2040 regional model[8] because they more closely match employee commute patterns to existing offices, and Google will continue to be an employer that attracts employees from the entire region. The Metropolitan Transportation Commission (MTC) model provided trip distance projections for 2020, 2030 and 2040. Linear interpolation was assumed for intermediate years, and years beyond 2040. The MTC model also assumes gradually reduced trip distances as the Bay Area grows and becomes denser over the coming decades.

Figure 14: Plan Bay Area 2040 Trip Distances

Trip Type	2020 (Existing)	2030	2040
Work trips (VMT_Workers)	25.7385	24.69721	24.44823
Residential trips (VMT_Capita)	18.31556	17.26181	17.10044

Source: MTC Plan Bay Area 2040

[8] Metropolitan Transportation Commission, "Plan Bay Area 2040: Final Supplemental Report," accessed July 29, 2019, https://github.com/BayAreaMetro/modeling-website/wiki/PlanBayArea2040)

These distances are significantly longer than those used in the CalEEMod model, however they more closely resemble actual employee commute distances from existing office sites that attract employees from throughout and beyond the Bay Area.
In the following tables, the following trip types are abbreviated as follows: Home - Work (H-W), Home - Shop (H-S), Home - Other (H-O), Commercial - Work (C-W), Commercial - Customer (C-C), and Commercial - Nonwork (C-NW).

Figure 15: CalEEMod Trip Distances

	Miles			Trip %		
Land Use	**H-W or C-W**	**H-S or C-C**	**H-O or C-NW**	**H-W or C-W**	**H-S or C-C**	**H-O or C-NW**
Apartments Mid Rise	10.8	4.8	5.7	31	15	54
General Office Building	9.5	7.3	7.3	33	48	19
Regional Shopping Center	9.5	7.3	7.3	16.3	64.7	19
Hotel	9.5	7.3	7.3	19.4	61.6	19
Event Center	9.5	7.3	7.3	33	48	19

Source: CalEEMod 2016.3.2

Figure 16: Trip Distances as Modeled

	Miles			Trip %		
Land Use	**H-W or C-W**	**H-S or C-C**	**H-O or C-NW**	**H-W or C-W**	**H-S or C-C**	**H-O or C-NW**
Apartments Mid Rise	10.8	4.8	5.7	31	15	54
General Office Building	**25.7385***	7.3	7.3	33	48	19
Regional Shopping Center	9.5	7.3	7.3	16.3	64.7	19
Hotel	9.5	7.3	7.3	19.4	61.6	19
Event Center	9.5	7.3	7.3	33	48	19

Source: CalEEMod 2016.3.2 and *MTC Plan Bay Area 2040

Vehicle Miles Traveled by Project Year

Vehicle miles traveled were calculated for each project year using the methodology described above. See Appendix B for vehicle miles traveled by project year.

Appendix A

Annual Person and Project Trips by Year

Annual Person & Project Trips by Year

Variant A, Total Annual Person Trips						
	Office	Residential	Hotel	Retail	Event facility	Total
2024	6,864,000	4,380,000	234,000	4,380,000	0	15,858,000
2025	6,864,000	4,380,000	234,000	4,380,000	0	15,858,000
2026	6,864,000	4,380,000	234,000	4,380,000	0	15,858,000
2027	6,864,000	4,380,000	234,000	4,380,000	0	15,858,000
2028	13,728,000	9,417,000	468,000	16,644,000	0	40,257,000
2029	13,728,000	9,417,000	468,000	16,644,000	0	40,257,000
2030	13,728,000	9,417,000	468000	16,644,000	0	40,257,000
2031	13,728,000	9,417,000	468000	16,644,000	0	40,257,000
2032	19,272,000	12,921,000	1029600	21,900,000	180000	55,302,600
2033	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2034	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2035	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2036	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2037	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2038	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2039	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2040	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2041	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2042	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2043	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2044	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2045	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2046	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2047	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2048	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2049	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2050	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2051	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2052	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600
2053	19,272,000	12,921,000	1,029,600	21,900,000	180,000	55,302,600

2054	12,408,000	8,541,000	795,600	17,520,000	180,000	39,444,600
2055	12,408,000	8,541,000	795,600	17,520,000	180,000	39,444,600
2056	12,408,000	8,541,000	795,600	17,520,000	180,000	39,444,600
2057	12,408,000	8,541,000	795,600	17,520,000	180,000	39,444,600
2058	5,544,000	3,504,000	561,600	5,256,000	180,000	15,045,600
2059	5,544,000	3,504,000	561,600	5,256,000	180,000	15,045,600
2060	5,544,000	3,504,000	561,600	5,256,000	180,000	15,045,600

Variant A Annual Auto Trips						
	Office	**Residential**	**Hotel**	**Retail**	**Event facility**	**Total**
2024	2,501,244	1,990,616	132,027	2,471,272	0	7,095,159
2025	2,501,244	1,990,616	132,027	2,471,272	0	7,095,159
2026	2,501,244	1,990,616	132,027	2,471,272	0	7,095,159
2027	2,501,244	1,990,616	132,027	2,471,272	0	7,095,159
2028	4,875,266	4,175,439	257,613	9,161,790	0	18,470,107
2029	4,875,266	4,175,439	257,613	9,161,790	0	18,470,107
2030	4,875,266	4,175,439	257,613	9,161,790	0	18,470,107
2031	4,875,266	4,175,439	257,613	9,161,790	0	18,470,107
2032	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2033	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2034	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2035	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2036	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2037	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2038	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2039	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2040	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2041	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2042	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2043	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2044	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2045	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2046	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045

2047	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2048	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2049	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2050	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2051	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2052	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2053	6,584,385	5,585,863	552,581	11,753,612	96,605	24,573,045
2054	4,198,363	3,692,350	426,994	9,402,889	96,605	17,817,202
2055	4,198,363	3,692,350	426,994	9,402,889	96,605	17,817,202
2056	4,198,363	3,692,350	426,994	9,402,889	96,605	17,817,202
2057	4,198,363	3,692,350	426,994	9,402,889	96,605	17,817,202
2058	1,812,341	1,514,810	301,408	2,820,867	96,605	6,546,031
2059	1,812,341	1,514,810	301,408	2,820,867	96,605	6,546,031
2060	1,812,341	1,514,810	301,408	2,820,867	96,605	6,546,031

Variant B Annual Person Trips						
	Office	**Residential**	**Hotel**	**Retail**	**Event facility**	**Total**
2024	6,864,000	2,847,000	234,000	2,628,000	0	12,573,000
2025	6,864,000	2,847,000	234,000	2,628,000	0	12,573,000
2026	6,864,000	2,847,000	234,000	2,628,000	0	12,573,000
2027	6,864,000	2,847,000	234,000	2,628,000	0	12,573,000
2028	13,728,000	9,636,000	468,000	16,644,000	0	40,476,000
2029	13,728,000	9,636,000	468,000	16,644,000	0	40,476,000
2030	13,728,000	9,636,000	468,000	16,644,000	0	40,476,000
2031	13,728,000	9,636,000	468,000	16,644,000	0	40,476,000
2032	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2033	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2034	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2035	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2036	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2037	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2038	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2039	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600

2040	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2041	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2042	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2043	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2044	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2045	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2046	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2047	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2048	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2049	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2050	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2051	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2052	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2053	18,744,000	12,483,000	1,029,600	21,900,000	180,000	54,336,600
2054	11,880,000	9,636,000	795,600	19,272,000	180,000	41,763,600
2055	11,880,000	9,636,000	795,600	19,272,000	180,000	41,763,600
2056	11,880,000	9,636,000	795,600	19,272,000	180,000	41,763,600
2057	11,880,000	9,636,000	795,600	19,272,000	180,000	41,763,600
2058	5,016,000	2,847,000	561,600	5,256,000	180,000	13,860,600
2059	5,016,000	2,847,000	561,600	5,256,000	180,000	13,860,600
2060	5,016,000	2,847,000	561,600	5,256,000	180,000	13,860,600

Variant B Annual Auto Trips						
	Office	Residential	Hotel	Retail	Event facility	**Total**
2024	2,501,244	1,293,900	132,027	1,482,763	0	5,409,934
2025	2,501,244	1,293,900	132,027	1,482,763	0	5,409,934
2026	2,501,244	1,293,900	132,027	1,482,763	0	5,409,934
2027	2,501,244	1,293,900	132,027	1,482,763	0	5,409,934
2028	4,875,266	4,272,542	257,613	9,161,790	0	18,567,211
2029	4,875,266	4,272,542	257,613	9,161,790	0	18,567,211
2030	4,875,266	4,272,542	257,613	9,161,790	0	18,567,211
2031	4,875,266	4,272,542	257,613	9,161,790	0	18,567,211
2032	6,393,553	5,396,512	552,581	11,753,612	96,605	24,192,862

2033	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2034	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2035	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2036	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2037	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2038	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2039	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2040	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2041	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2042	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2043	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2044	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2045	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2046	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2047	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2048	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2049	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2050	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2051	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2052	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2053	6,239,953	5,396,512	552,581	11,753,612	96,605	24,039,262
2054	3,853,931	4,165,728	426,994	10,343,178	96,605	18,886,436
2055	3,853,931	4,165,728	426,994	10,343,178	96,605	18,886,436
2056	3,853,931	4,165,728	426,994	10,343,178	96,605	18,886,436
2057	3,853,931	4,165,728	426,994	10,343,178	96,605	18,886,436
2058	1,467,908	1,230,783	301,408	2,820,867	96,605	5,917,571
2059	1,467,908	1,230,783	301,408	2,820,867	96,605	5,917,571
2060	1,467,908	1,230,783	301,408	2,820,867	96,605	5,917,571

Appendix B

Vehicle Miles Traveled by Year

Vehicle Miles Traveled by Project Year

Variant A VMT						
	Office	Residential	Hotel	Retail	Event facility	Total
2024	33,134,613	14,224,942	1,020,145	18,926,485	0	67,306,186
2025	33,048,664	14,224,942	1,020,145	18,926,485	0	67,220,237
2026	32,962,714	14,224,942	1,020,145	18,926,485	0	67,134,287
2027	32,876,765	14,224,942	1,020,145	18,926,485	0	67,048,338
2028	63,913,781	29,837,684	1,990,527	70,166,482	0	165,908,475
2029	63,746,255	29,837,684	1,990,527	70,166,482	0	165,740,948
2030	63,578,728	29,837,684	1,990,527	70,166,482	0	165,573,422
2031	63,538,671	29,837,684	1,990,527	70,166,482	0	165,533,365
2032	85,759,289	39,916,576	4,269,681	90,016,211	775,352	220,737,109
2033	85,705,189	39,916,576	4,269,681	90,016,211	775,352	220,683,009
2034	85,651,090	39,916,576	4,269,681	90,016,211	775,352	220,628,910
2035	85,596,990	39,916,576	4,269,681	90,016,211	775,352	220,574,810
2036	85,542,891	39,916,576	4,269,681	90,016,211	775,352	220,520,711
2037	85,488,791	39,916,576	4,269,681	90,016,211	775,352	220,466,611
2038	85,434,691	39,916,576	4,269,681	90,016,211	775,352	220,412,512
2039	85,380,592	39,916,576	4,269,681	90,016,211	775,352	220,358,412
2040	85,326,492	39,916,576	4,269,681	90,016,211	775,352	220,304,312
2041	85,272,393	39,916,576	4,269,681	90,016,211	775,352	220,250,213
2042	85,218,293	39,916,576	4,269,681	90,016,211	775,352	220,196,113
2043	85,164,194	39,916,576	4,269,681	90,016,211	775,352	220,142,014
2044	85,110,094	39,916,576	4,269,681	90,016,211	775,352	220,087,914
2045	85,055,995	39,916,576	4,269,681	90,016,211	775,352	220,033,815
2046	85,001,895	39,916,576	4,269,681	90,016,211	775,352	219,979,715
2047	84,947,796	39,916,576	4,269,681	90,016,211	775,352	219,925,616
2048	84,893,696	39,916,576	4,269,681	90,016,211	775,352	219,871,516
2049	84,839,596	39,916,576	4,269,681	90,016,211	775,352	219,817,417
2050	84,785,497	39,916,576	4,269,681	90,016,211	775,352	219,763,317
2051	84,731,397	39,916,576	4,269,681	90,016,211	775,352	219,709,217
2052	84,677,298	39,916,576	4,269,681	90,016,211	775,352	219,655,118

2053	84,623,198	39,916,576	4,269,681	90,016,211	775,352	219,601,018
2054	53,923,300	26,385,533	3,299,299	72,012,969	775,352	156,396,453
2055	53,888,805	26,385,533	3,299,299	72,012,969	775,352	156,361,958
2056	53,854,310	26,385,533	3,299,299	72,012,969	775,352	156,327,463
2057	53,819,815	26,385,533	3,299,299	72,012,969	775,352	156,292,968
2058	23,217,939	10,824,834	2,328,917	21,603,891	775,352	58,750,933
2059	23,203,048	10,824,834	2,328,917	21,603,891	775,352	58,736,042
2060	23,188,157	10,824,834	2,328,917	21,603,891	775,352	58,721,151

Variant B VMT						
	Office	**Residential**	**Hotel**	**Retail**	**Event facility**	**Total**
2024	33,134,613	9,246,213	1,020,145	11,355,891	0	54,756,862
2025	33,048,664	9,246,213	1,020,145	11,355,891	0	54,670,913
2026	32,962,714	9,246,213	1,020,145	11,355,891	0	54,584,963
2027	32,876,765	9,246,213	1,020,145	11,355,891	0	54,499,014
2028	63,913,781	30,531,584	1,990,527	70,166,482	0	166,602,375
2029	63,746,255	30,531,584	1,990,527	70,166,482	0	166,434,848
2030	63,578,728	30,531,584	1,990,527	70,166,482	0	166,267,321
2031	63,538,671	30,531,584	1,990,527	70,166,482	0	166,227,264
2032	83,273,763	38,563,472	4,269,681	90,016,211	775,352	216,898,479
2033	81,221,908	38,563,472	4,269,681	90,016,211	775,352	214,846,624
2034	81,170,638	38,563,472	4,269,681	90,016,211	775,352	214,795,354
2035	81,119,369	38,563,472	4,269,681	90,016,211	775,352	214,744,085
2036	81,068,099	38,563,472	4,269,681	90,016,211	775,352	214,692,815
2037	81,016,830	38,563,472	4,269,681	90,016,211	775,352	214,641,546
2038	80,965,560	38,563,472	4,269,681	90,016,211	775,352	214,590,276
2039	80,914,291	38,563,472	4,269,681	90,016,211	775,352	214,539,006
2040	80,863,021	38,563,472	4,269,681	90,016,211	775,352	214,487,737
2041	80,811,751	38,563,472	4,269,681	90,016,211	775,352	214,436,467
2042	80,760,482	38,563,472	4,269,681	90,016,211	775,352	214,385,198
2043	80,709,212	38,563,472	4,269,681	90,016,211	775,352	214,333,928
2044	80,657,943	38,563,472	4,269,681	90,016,211	775,352	214,282,659
2045	80,606,673	38,563,472	4,269,681	90,016,211	775,352	214,231,389

2046	80,555,404	38,563,472	4,269,681	90,016,211	775,352	214,180,119
2047	80,504,134	38,563,472	4,269,681	90,016,211	775,352	214,128,850
2048	80,452,864	38,563,472	4,269,681	90,016,211	775,352	214,077,580
2049	80,401,595	38,563,472	4,269,681	90,016,211	775,352	214,026,311
2050	80,350,325	38,563,472	4,269,681	90,016,211	775,352	213,975,041
2051	80,299,056	38,563,472	4,269,681	90,016,211	775,352	213,923,772
2052	80,247,786	38,563,472	4,269,681	90,016,211	775,352	213,872,502
2053	80,196,517	38,563,472	4,269,681	90,016,211	775,352	213,821,232
2054	49,499,449	29,768,294	3,299,299	79,214,266	775,352	162,556,659
2055	49,467,783	29,768,294	3,299,299	79,214,266	775,352	162,524,994
2056	49,436,118	29,768,294	3,299,299	79,214,266	775,352	162,493,329
2057	49,404,453	29,768,294	3,299,299	79,214,266	775,352	162,461,664
2058	18,805,407	8,795,178	2,328,917	21,603,891	775,352	52,308,744
2059	18,793,346	8,795,178	2,328,917	21,603,891	775,352	52,296,683
2060	18,781,285	8,795,178	2,328,917	21,603,891	775,352	52,284,623

Appendix B

Memorandum of Understanding between the City of San José and Google LLC

MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF SAN JOSE AND GOOGLE LLC

THIS MEMORANDUM OF UNDERSTANDING ("MOU"), entered into as of December 4, 2018, is by and between the CITY OF SAN JOSE, a California charter city ("City"), and Google LLC, a Delaware limited liability company ("Developer" or "Google"). The City and Developer shall each be referred to herein as a "Party" and collectively as the "Parties."

The Parties intend that the aspirations set forth herein in this MOU will form the basis for negotiations of a future development agreement regarding Google development in and around the Diridon Station Area.

RECITALS

Whereas, the City Council of the City adopted the Envision San José 2040 General Plan ("General Plan") in 2011 setting forth a vision and comprehensive road map to guide the City's continued growth through the year 2040;

Whereas, the General Plan includes land use policies to shape the transformation of strategically identified "Growth Areas" into higher density, mixed-use, urban districts or "Urban Villages" which can accommodate employment and housing growth and reduce environmental impacts of that growth by promoting transit use and walkability;

Whereas, the Diridon Station Area, located generally within the San José Downtown, is identified as a "Growth Area" and "Urban Village" in the General Plan;

Whereas, the City Council of the City adopted the Diridon Station Area Plan in 2014 to establish a land use plan and policy framework that will guide future development and redevelopment toward land uses that support transit ridership and economic development, and create a world-class urban destination, among many other objectives;

Whereas, the City and Google intend to collaborate on development in and around the Diridon Station Area to aid implementation of the planned expansion of San José's Downtown, the Diridon Station Area Plan, and the General Plan;

Whereas, Google has acquired or controls properties within or proximate to the Diridon Station Area Plan area (hereafter, the "Google Properties") that the Developer intends to develop in conjunction with certain City-owned properties in the Diridon Station Area as a master-planned, cohesive urban development proximate to the Diridon Station;

Whereas, the City is considering selling to Google certain City properties proximate to the Diridon Station (hereafter, the "City Properties") because of potential benefits to San José and the

South Bay from integrating future development in the Diridon Station Area with improved public transit access, broadly expanding economic opportunity, enhancing the natural and built environment, and creating a transit-oriented urban destination;

Whereas, on June 20, 2017, the City Council of the City adopted a resolution authorizing the City Manager to negotiate and execute an Exclusive Negotiations Agreement ("ENA") between the Parties, and the executed ENA was fully executed on June 30, 2017;

Whereas, the City and Google aspire to partner in the planning and design of office, retail, residential, and public amenity projects that maximize use and support of public transit;

Whereas, the City and Google have a shared goal of timely implementation of development projects in the Diridon Station Area to maximize integration with planned transit projects and successful implementation of the Diridon Station Area Plan;

Whereas, the City and Google agree that it is imperative that development of City Properties and the Google Properties maximize development density consistent with the General Plan and the Diridon Station Area Plan, as may be amended in conjunction with Google's future development proposals, integrate development of the property into the urban fabric of the City, and allow for Google to build a work environment that is conducive for its business;

Whereas, the City and Google intend to continue developing a comprehensive approach to identify and deliver community benefits that is informed by input gained from continuation of the community engagement process that is underway;

Whereas, the City and Google affirm that the ideas and concepts expressed in this MOU will be a basis for negotiating a future Development Agreement to identify elements of future development that are intended to be vested and to memorialize community benefits, the terms and details of which will be determined and refined during the negotiation process;

Whereas, Google understands that by execution of this MOU, the City is not committing to or agreeing to undertake (a) any disposition of land to the Developer; or (b) any other acts requiring the subsequent independent exercise of discretion by the City or its departments, and this MOU does not imply any obligation on the part of City or the Developer to enter into any agreement that may result from the aspirations and intentions set forth herein;

Whereas, this MOU does not commit City to a definite course of action with regard to any project, including approval of any project that may be proposed, the execution and approval of this MOU is not a "project" under the California Environmental Quality Act ("CEQA");

NOW, THEREFORE, based on the recitals set forth above, the Parties hereby agree as follows:

SCOPE OF AGREEMENT

I. Effective Date; Term

This MOU shall become effective on the date on which a) City Council approves this MOU, and b) the Parties execute an agreement for the sale of at least one of the City Properties to Google ("Effective Date"). The term of this MOU shall begin on the Effective Date and shall terminate upon the Parties' execution of a Development Agreement approved by the City Council of the City or on December 31, 2022, whichever occurs first.

II. Vision

The Parties' shared vision is to create a vibrant, welcoming, and accessible urban destination consisting of a mix of land uses and that are well-integrated with the intermodal transit station, adjacent neighborhoods, and Downtown. This shared vision embodies a commitment to place making, social equity, economic development, environmental sustainability, and financially-viable private development.

The Parties intend to collaborate and innovate in the development of this urban destination to bring opportunity to the local community and create new models for urban and workplace design and development.

III. Shared Goals

In the development of the Diridon Station Area, the City and Google aspire to:

A. **Create a Balanced Development.** Balance and address the objectives of the City, Google and the community in creating a vibrant urban destination advancing economic opportunity, social equity, and environmental sustainability with a financially-viable private development.

B. **Capitalize on Transit Synergy.** Create a "whole greater than the sum of the parts" in the Diridon Station Area with new urban development, expanded transit service, and a new intermodal station in conjunction with transit partners Valley Transportation Authority, Caltrain, and the California High Speed Rail Authority.

C. **Optimize Density and Mix of Uses.** Optimize development density and create a complementary mix of uses in order to create a vibrant, transit-oriented urban neighborhood and destination.

D. **Grow and Preserve Housing.** Contribute funding - through a community benefits contribution and/or a Downtown-wide linkage fee and/or a financing district - which may be combined with other services to develop and preserve housing in the City to help address rising

housing costs and displacement. Housing in the Diridon Station Area should include on-site units affordable to incomes ranging from extremely low income to "missing middle" households in combination with market rate homes. Affordable units can be built both integrated into market-rate developments and as stand-alone affordable housing projects. The Parties, as a goal but not a requirement, strive for 25% of the housing developed in the Diridon Station Area to be affordable housing with a mix of affordability levels to be negotiated in a future development agreement.

E. **Create Broad Job Opportunities.** Promote opportunities for San José residents of all skill and educational levels and diverse backgrounds to prepare for and secure jobs that provide wages that enable families to thrive in this high cost region. Provide opportunities for existing and new small, local businesses to benefit from and/or integrate into the new development. The Parties, as a goal but not a requirement, strive for 35% of hiring to be local hiring, with a further emphasis on hiring individuals with identified barriers to job entry. Further, the City should proceed with the process for public and Council consideration of the proposed Local Hiring Ordinance, currently scheduled for consideration at the January 28, 2019 Community and Economic Development meeting.

F. **Pursue Equitable Development.** Develop the Diridon Station Area with intent to minimize potential negative impacts on people and place, and to maximize opportunity for local youth and adults to participate and benefit from job opportunities in the Diridon Station Area, through partnerships among the City, Google, and others.

G. **Design for Human Scale.** Design buildings and spaces that are oriented to the human-scale to support an active street life and accessibility for people of all abilities.

H. **Enhance and Connect the Public Realm.** Develop robust, publicly accessible amenities, including parks, open space, plazas, and trails, and create attractive, vibrant, and safe experiences for pedestrians and bicyclists. Integrate public art and preserve cultural and historical assets. Assure that development provides and enables multi-modal access and connections to the Guadalupe River, Los Gatos Creek, and other public spaces, with an emphasis on ecological restoration and preservation.

I. **Pursue Excellence in Design.** Create a new-model urban tech workplace that is appropriately open to the public, and well-integrated with the surrounding community. Support Google to create workplaces that serve its needs to create healthy, secure and productive workplace for its employees. Explore innovative and replicable building design, construction, and operation to demonstrate new, scalable models of urban development.

J. **Maximize Use of Public Transit and Minimize Parking.** The City acknowledges and supports Google's desire to minimize parking for its own use and to maximize use of public transit by employees and visitors. Plan and develop parking for the Diridon Station Area that is

not visually prominent and is conducive to adaptive re-use as transportation modes change in the future.

K. **Pursue Excellence in Transit Access and Operations.** Collaborate with the transit agencies Caltrain, Valley Transportation Authority, and California High Speed Rail Authority to provide design input for the new Diridon Station that optimizes the traveler experience, demonstrates and incorporates state-of-the-art sustainability features, and enables place making, private development, and investment in the area.

L. **Optimize Sustainability.** Advance the City's sustainability goals as outlined in the City's "Climate Smart San José" Plan, including reducing greenhouse gas emissions aligned with the Paris Agreement to combat climate change. Enhance the wildlife habitat, water quality, public access, and flood protection of the creek corridors.

M. **Be Open to Innovation.** The City and Google envision an open-to-innovation approach for any proposed development plans, review of those plans, and approaches to achieving place making, economic, social equity, and environmental objectives for the community.

N. **Proceed with Timely Implementation.** Implement development projects in a timely manner.

O. **Participate in Fair Share Development.** Ensure that all projects in the Diridon Station Area and adjacent areas contribute their fair share of investment to support amenities, infrastructure, improvements, and mitigations that benefit all properties.

P. **Pursue Progressive Hiring and Wage Practices.** The Developer, Contractors, and Subcontractors should pay construction workers a prevailing hourly wage and benefit rate for Office and R&D development. Further progressive hiring practices that reflect the values of San José such as "ban the box" and hiring of apprentices from local vulnerable areas should be advocated.

Q. **Community Engagement regarding Community Benefits.** Community Engagement should be prioritized in the drafting of a Community Benefits Plan. As the project matures, reconvening the Station Area Advisory Group (SAAG) and conducting meaningful engagement with advocates may be appropriate, including an opportunity for the SAAG to review and provide feedback before finalization of any community benefits agreement or development agreement(s).

R. **Support and Collaborate with Local Schools.** Develop partnerships with local schools, such as San José State University, that increase access to quality education, enrichment opportunities, internships, and pathways to careers in STEM fields.

IV. Project Work Product

A. Applications for Land Use Entitlements. Following its acquisition of the City Properties, Google intends to prepare plans for its proposed development of the Google Properties and City Properties consistent with the Vision and Shared Goals set forth in Sections II and III above, and submit planning applications in a timely manner to the City for processing.

B. Revisions and Plan Updates. Google and City desire to collaborate on the preparation, review, and ultimate adoption of any and all documents or plans necessary to effectuate the implementation of an agreed upon development project. It is anticipated that review and approval of a development project will likely include at minimum the following legislative acts by the City Council: amendments of the General Plan, Diridon Station Area Plan, and Zoning Code, and the related certification of an Environmental Impact Report ("EIR") prepared pursuant to CEQA. In addition, the Council may consider revisions to the One Engine Inoperable ("OEI") practices regarding allowable building heights in and around the Diridon Station Area.

C. Diridon Station Area Plan Amendment. The City intends to update and amend the Diridon Station Area Plan ("DSAP") adopted in 2014 to reflect changed conditions, including but not limited to a proposed Google development. In addition to preparing plans for its proposed development, Google may prepare masterplan concepts for the Diridon Station Area (250 acres) for consideration by the City. The City will independently review any submitted masterplan concepts for potential inclusion in the DSAP revisions recommended to the City Council.

D. Development Agreement. Google seeks to enter into a Development Agreement with the City to memorialize community benefits and secure vested development rights aligned with any proposed development masterplan. The Parties agree that a primary goal of this MOU is to provide a reference for negotiating a future Development Agreement. The Development Agreement is expected to provide certainty with regard to the rules and regulations that will govern the future development in addition to other terms, a time frame for delivery of development projects, a description of the specific project types and densities, and a schedule of payment or delivery of community benefits.

The Development Agreement should include provisions related to effective date and term of the agreement, vested project approvals, uses of the property, the density or intensity of use, the maximum height and size of proposed buildings, dedications of land, project mitigations, timing and phasing of development, timing and phasing of community benefits, allocation of funds for community benefits by category, applicable laws and requirements, required subsequent City approvals, Developer obligations, City obligations and mutual obligations.

The Parties recognize that the Development Agreement negotiations shall take into account the financial viability of any project developed by Google, and the development-related priorities of the City and community.

E. Community Benefits Plan.

The Parties intend to include a specific Community Benefits Plan in the Development Agreement.

The Parties expect that private investment in new commercial and residential development in the Diridon Station Area—aligned with the Envision 2040 General Plan and DSAP--will bring substantial positive benefits for the City, and that these benefits will outweigh the various impacts accompanying the potential development. The benefits may include substantial contributions to achieving the City's jobs and housing goals for Downtown, positive impact on the City's budget and service provision, improved ability to create affordable housing, serving as a catalyst for broader economic development in the City, significant improvement and investment in the public realm, and substantial increases in transit riders and associated fares.

The City and Google acknowledge that development of the Diridon Station Area may contribute to rising housing costs, potential business and residential displacement, and other impacts on people and place. The Parties intend to develop approaches to equitable development that are effective, replicable, and leverage resources of the City, Google, and other partners.

The City's expectation of a community benefit contribution would be premised on, among other factors, the additional value Google receives as a result of the legislative changes that may be approved by the City Council that enhance the value of both the City Properties and the Google Properties, and the certainty that could be provided to Google through a Development Agreement. The City would expect Google to share a portion of the value created by the City Council's actions with the City through a Community Benefits Plan. The base for estimating the value created would be the price Google paid for both the City Properties and the Google Properties.

In developing the Community Benefits Plan, the parties intend to consider the input provided to date through the City's community engagement process (Diridon Station Area Civic Engagement Report) and subsequent input, including as to the amount and use of community benefits funds, provided by the community, key stakeholders, and City Council through a process mutually acceptable to the Parties, as well as addressing the shared goals in this MOU. In developing the Community Benefits Plan, consideration will be given to major categories of community priorities identified to date, including the following:

- Affordable housing, displacement prevention and mitigation
- Education, workforce training, and career opportunities
- Small business opportunity
- Historic and cultural preservation, public art
- Public space, trails, and mobility
- Community nonprofit support, including homeless services
- Habitat and environmental sustainability

The following costs will not be considered Community Benefits: costs required to mitigate impacts under CEQA; costs associated with project design, project elements, or other improvements proposed by Google as part of its development; and costs incurred to meet City standard requirements, conditions of approval, fees, or taxes.

F. Financing of Shared Infrastructure and Services. The Parties contemplate that Google will participate in the future comprehensive financing plan for the Diridon Station Area Plan and certain surrounding areas in the Downtown ("Diridon Financing Plan") to fund public improvements, affordable housing, and other amenities and services. The future Diridon Financing Plan may include the creation of (i) Community Facilities District(s); (ii) Enhanced Infrastructure Financing District(s); (iii) Property Based Improvement District(s); (iv) Mitigation Impact Fee program(s); (v) Commercial linkage fee program; and/or (vi) other financing mechanisms. Google and other affected property owners will be subject to, fully participate in, and pay any and all charge, fee, assessment or tax included in the City Council approved Diridon Financing Plan, as may be amended, which may include one or more of the financing mechanisms identified above.

G. Commercial Linkage Fee. Google supports the City's study of a potential Commercial Linkage Fee on development in the Downtown, including but not limited to the Diridon Station Area, to support investment in affordable housing and infrastructure.

H. District Utilities. The Parties seek to collaborate in the study and evaluation of a district wide program of shared utilities, such as electricity, data, water, storm water, waste and sewer that allows for necessary City easements.

I. Parking. The City and Google will work to develop a parking plan for the Diridon Station Area that addresses initial and long-term goals in order to balance the need for parking and the desire to minimize parking in the long-term. The parking plan is expected to include elements such as available physical spaces and tools/processes (such as Transportation Management Plan) necessary to support efficient operation of the Diridon Station Area.

J. Consideration of Street Closures/Vacations. The Parties intend to collaborate on a pedestrian friendly master plan that will consider opportunities that may be created by the closure, narrowing and/or abandonment of certain existing streets to fully optimize the Diridon Station Area redevelopment potential consistent with the General Plan, DSAP, and other City requirements. The Parties will also explore opportunities to provide Developer offsets for the use of the vacated streets in exchange for equal areas for publicly accessible open space within the Diridon Station Plan Area.

K. Ongoing Community Engagement. The Parties contemplate that in addition to the public process as may be legally required for specific development applications, at minimum periodic reports will be provided by the City to the Station Area Advisory Group, or its successor, until such time as a Development Agreement is executed.

L. Planned Parkland on Fire Training Site. The General Plan and DSAP currently identify certain open space areas. If the General Plan and DSAP are amended to change the open space allocations, the Parties intend that the total amount of public open space identified in the DSAP would not be decreased.

V. No City Funds or Tax Subsidies for Private Development

A. No Subsidy or Waiver. Google shall fully pay the City all applicable fees, charges, and taxes in accordance to the City's standard payment requirements for any development project that it proposes. Google will purchase the City Properties at fair market value and will not be paid for in whole or in part out of public funds.

B. No City Funds. No City funds shall be expended on private development or private construction any development project that Google proposes.

C. No Tax Dollars. No City tax revenue will be expended by the City directly for private development or private construction of any development project that Google proposes.

VI. General Conditions

A. Nonbinding. This MOU shall not be binding upon the Parties and creates no legal obligations on either Party, including any obligation to negotiate or continue negotiations at any stage. No development applications have been submitted by Google to the City for any possible development referenced herein.

B. Governing Law. The law governing this MOU shall be that of the State of California.

C. Venue. In the event that suit shall be brought by either party, the Parties agree that trial of such action shall be exclusively vested in a state court in the County of Santa Clara, or where appropriate, in the United States District Court for the Northern District of California, San José, California.

D. No Third Party Beneficiaries. This MOU is not intended nor shall it be construed to create any third-party beneficiary rights in any person or entity other than the Parties.

E. No Assignment. The MOU is intended to be between the City and Google. Neither City nor Google may not assign the MOU, or any portion of the MOU to another party.

F. Extension. The City's City Manager shall have the authority to extend the term of this MOU, in one or more extensions, by a maximum total period of no more than one year through December 31, 2023.

G. Counterparts. This MOU may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same non-binding instrument.

WITNESS THE EXECUTION HEREOF the day and year first hereinabove set forth.

THE CITY

CITY OF SAN JOSE, a municipal corporation

By: _____

Toni J. Taber, CMC
City Clerk

DEVELOPER

GOOGLE LLC
a Delaware Limited Liability Company

Legal Dept. SV/JG Google

By: _____

Mark Golan,
VP-REWS Bay Area

APPROVED AS TO FORM:

By: _____

Johnny V. Phan
Senior Deputy City Attorney

Appendix C

Analysis of GHG Impacts for the Downtown West Mixed-Use Plan

Google

Analysis of GHG Impacts for the Downtown West Mixed-Use Plan

Final Draft | August 23, 2019

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1 Introduction

Arup conducted an analysis of both direct and indirect greenhouse gas (GHG) emissions associated with the proposed Downtown West Mixed-Use Plan in San Jose, California. This analysis was performed to meet the requirements of Assembly Bill (AB) 900, the Jobs and Economic Improvement through Environmental Leadership Act. The analysis was further informed by the criteria described in the Governor's Guidelines for Streamlining Judicial Review under the California Environmental Quality Act (CEQA) (Public Resources Code Section 21178 et seq.). The analysis includes both construction-related emissions and ongoing operational emissions associated with transportation, building energy usage, and other sectors. While the project contemplates a number of on-site or local emissions-reducing strategies, the analysis relies on more conservative assumptions as these strategies are further studied. The analysis shows that the project meets the requirement for no "net additional emission of GHGs, including GHGs from employee transportation" [California PRC Section 21183(c)].

2 Project Description

2.1 Existing Conditions

The Downtown West Mixed-Use Plan is an approximately 80-acre site, which currently includes an assortment of existing land uses. These uses are described in Table 1 below.

Table 1: Existing Land Uses[1]

LAND USE TYPE	UNIT AMOUNT	UNIT METRIC
Single family condo/townhouse	11	Dwelling Unit
Single family detached	2	Dwelling Unit
Specialty retail/strip commercial	38,203	Sq.ft.
Regional Shopping Center	85,000	Sq.ft.
Auto repair	7,779	Sq.ft.
General office building	45,988	Sq.ft.
Warehouse (unrefrigerated, no	137,172	Sq.ft.
General manufacturing	42,570	Sq.ft.
Warehouse (unrefrigerated, no	196,181	Sq.ft.
Worship	9,000	Sq.ft.
Parking	469,371	Sq.ft.

[1] Note that the "Land Use Subtype" designation is sourced from the CalEEMod list of 63 available land use subtypes. Where a specific subtype for the existing site was not available, the CalEEMod subtype with the closest use pattern was selected.

2.2 Proposed Project

The proposed project is composed of a mix of uses, which primarily includes office and residential space. In the current planning stage there are two variations of the project, Variant A and Variant B, which are comprised of substantially similar land use mixes. Variant A includes slightly higher GHG emission intensity overall and per phase. For this reason, Variant A is used for purposes of analyzing a single, conservative greenhouse gas emissions scenario in this document.

The proposed project under Variant A includes up to 7.3 million sq.ft. of office space and up to 5,900 dwelling units. In addition, the proposed project includes up to 500,000 sq.ft. of retail, an up to 300-room hotel, up to 800 rooms of limited-term corporate accommodation, an up to 100,000 sq.ft. event facility, two logistics hubs (each approximately 50,000 sq.ft.), a 100,000 sq. ft. central utility plant, and approximately 15 acres of open space. This program description is summarized in Table 2 below. For the purposes of this analysis, the upper end of each range is used, and workers associated with the project's office uses are assumed to be net new.

Table 2: Proposed Project (Variant A) Land Uses

LAND USE TYPE	UNIT AMOUNT	UNIT METRIC
General Office Building	7,300	1,000 sq.ft.
Retail	500	1,000 sq.ft.
Hotel	300	Rooms
Apartments (high-rise)	5,900	Dwelling units
Limited-term corporate accommodation	800	Rooms
Event facility	100	1,000 sq.ft.
Logistics Center	100	1,000 sq.ft.
Central Utility Plant	100	1,000 sq.ft.
Open space	15	Acres

Construction is assumed to occur in three phases from years 2021 to 2024, 2024 to 2027, and 2027 to 2030. Table 3 shows planned development for the proposed project by phase. The anticipated phasing for the project's Variant A is described below, although these phasing tables are illustrative. Some phases may occur in a different order or occur concurrently. However, the entire development program is expected to take at least ten years. All analysis has made the most aggressive and impactful assumptions to be conservative.

Table 3: Development Phasing

LAND USE SUBTYPE	UNIT METRIC	PHASE 1	PHASE 2	PHASE 3
Office	1,000 sq.ft.	2,600	2,600	2,100
Retail	1,000 sq.ft.	100	280	120
Hotel	Rooms	0	0	300
Apartments	Dwelling units	2,000	2,300	1,600
Limited-term corporate accommodation	Rooms	250	250	300
Event facility	1,000 sq.ft.	0	0	100
Logistics Center	1,000 sq.ft.	50	0	50
Central Utility Plant	1,000 sq.ft.	100	0	0
Open space	Acres	5	5	5

3 GHG Emissions Overview

GHGs in the atmosphere have a large effect on the earth's surface temperature. There are several sources of GHGs in the atmosphere. Natural sources include the respiration of humans, plants, and animals, evaporation from oceans, and the decomposition of organic matter. Anthropogenic sources include agricultural processes, the combustion of fossil fuels, and emissions from waste treatment. The primary anthropogenic sources of GHGs, which are included in this analysis are:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)

Global warming potential (GWP) compares the ability of each GHG to trap heat in the atmosphere relative to CO_2. CO_2 has a GWP of 1, while CH_4 has a GWP of 25 and N_2O has a GWP of 298. This means that one ton of methane makes the same contribution to the greenhouse effect as 25 tons of carbon dioxide.

4 GHG Emissions Methodology Summary

To qualify as an Environmental Leadership and Design Project under AB 900, the Project must result in zero net new operational emissions of GHGs, as determined by the California Air Resources Board (CARB). According to CARB, the analysis and accompanying documentation must quantify: (1) Baseline operational emissions; (2) Proposed project construction and operational annual emissions, including both direct and indirect emissions; (3) Proposed project net new construction and operational emissions.

Operational GHG emissions sources included in the analysis were: on-road motor vehicles (mobile sources), building energy (electricity and natural gas), water and wastewater, solid waste, as well as area and stationary emissions sources. GHG emissions quantification methodologies are broadly outlined in Table 4 below. In order to calculate emissions from the various sources, the California Emissions Estimator Model (CalEEMod) was used. CalEEMod assumptions are listed in Table A. 1 of Appendix A.

Table 4: Operational GHG Emissions Quantification Methodologies

CATEGORY	UNITS	BASELINE ACCOUNTING METHOD	PROPOSED ACCOUNTING METHOD
MOBILE SOURCES	$MTCO_2e/yr$	Calculation via CalEEMod.	VMT/trip generation calculation, incorporating TDM strategies, translated to emissions using fleet mix and vehicle type-specific emissions factors from CalEEMod.
ELECTRICITY	$MTCO_2e/yr$		Preliminary energy model with Title 24 and proposed central utility plant strategies, translated to emissions using eGRID emissions factors from CalEEMod.
NATURAL GAS	$MTCO_2e/yr$		Combustion is not anticipated in the proposed project at this time. If combustion is required further along in design, energy would be modeled in accordance with Title 24.
WATER + WASTEWATER	$MTCO_2e/yr$		Water use calculation, including anticipated reductions, translated to electricity use and corresponding emissions using eGRID emissions factors from CalEEMod. Wastewater calculation additionally includes direct emissions from wastewater treatment processes, calculated using emissions factors from CalEEMod to match the state of California's average utility treatment split.
SOLID WASTE	$MTCO_2e/yr$		Based on known waste generation rates at Google for commercial spaces and CalRecycle rates for other use types, translated to emissions using solid waste emissions factors from CalEEMod.
LANDSCAPING/AREA SOURCES	$MTCO_2e/yr$		Calculation via CalEEMod.
STATIONARY SOURCES	$MTCO_2e/yr$		Calculation via CalEEMod.
SEQUESTRATION	$MTCO_2e/yr$	CalEEMod using existing tree survey	Calculation via CalEEMod using proposed landscape design.

To meet these minimum requirements, this analysis defines the baseline operational emissions as those of the existing site. These baseline emissions are considered for the final year of operations, which are the existing land use operational emissions for the year 2020. Baseline emissions were calculated using the existing land uses as noted in Section 2.1 with default values for CalEEMod, using the methodology outlined in the following sections.

Baseline emissions are compared to the proposed project, with emissions calculated for construction and operational activities. Annual construction and operational emissions are calculated using the methodology that is detailed in subsequent sections of this report. Operational emissions are estimated from 2024 to 2060 to capture a sliding window of 30 years of operations for each build-out phase. As each phase reaches its 30-year operational horizon, the associated emissions are removed, leaving only the subsequent phase emissions. For example, in 2057 the emissions from Phase 2 will have run their 30-year operational horizon, leaving only Phase 3 emissions for 2057-2060. These year-by-year emissions are compared to the baseline emissions over the same period to determine the requirement for offsets or renewable energy certificate purchases.

Table 5: Construction & Operational Periods by Phase

PHASE	CONSTRUCTION PERIOD	OPERATIONAL PERIOD (30 YEARS)
Phase 1	2021 - 2024	2024 - 2054
Phase 2	2024 - 2027	2027 - 2057
Phase 3	2027 - 2030	2030 - 2060

The remainder of this section addresses the methodology for performing this comparison.

4.1 Construction-Related GHG Emissions

The proposed project will generate one-time emissions from construction. These emissions are separate from those associated with ongoing operation of the project. Methodologies for quantifying construction-related GHG emissions are detailed below. Broadly, construction activities include demolition of existing onsite structures, site preparation, grading, shoring and excavation, structural work, exterior skin and interior finishes, and paving.

Construction activities generate GHG emissions from heavy-duty construction equipment, material-hauling trucks, and construction-worker vehicles. These emissions were calculated using the most current version of CalEEMod; Version 2016.3.2. Project-specific construction information including equipment types and the construction schedule was entered in CalEEMod. CalEEMod defaults were used for the type, quantity, operational hours per days, and horsepower of construction equipment and number and length of off-site vehicle trips. For the

total worker days associated with the proposed construction, see Table A. 2 through Table A. 4 of Appendix A. Table 6 shows the off-road equipment used by construction phase, including equipment type, number of pieces of equipment, and hours of operation per day.

Table 6: Construction Schedule

PHASE	EQUIPMENT TYPE	NUMBER OF PIECES	OPERATING HOURS PER DAY
Demolition	Concrete/Industrial Saws	1	8
Demolition	Excavators	3	8
Demolition	Rubber Tired Dozers	2	8
Site Preparation	Rubber Tired Dozers	3	8
Site Preparation	Tractors/Loaders/Backhoes	4	8
Grading/shoring/excavation	Excavators	2	8
Grading/shoring/excavation	Graders	1	8
Grading/shoring/excavation	Rubber Tired Dozers	1	8
Grading/shoring/excavation	Scrapers	2	8
Grading/shoring/excavation	Tractors/Loaders/Backhoes	2	8
Building Construction	Cranes	1	7
Building Construction	Forklifts	3	8
Building Construction	Generator Sets	1	8
Building Construction	Tractors/Loaders/Backhoes	3	7
Building Construction	Welders	1	8
Paving	Pavers	2	8
Paving	Paving Equipment	2	8
Paving	Rollers	2	8
Architectural coating	Air Compressors	1	6

The project construction includes equipment that is powered by electricity. As such, GHG emissions for these off-road pieces of equipment were estimated as indirect GHG emissions due to electricity consumption. Electricity consumption was estimated based on the type and usage of each piece of equipment.

4.2 Mobile Sources

Trip generation and the corresponding vehicle miles travelled (VMT) for the existing site uses were calculated from default values in CalEEMod. It is important to note that the site includes several existing parking lots; however, parking is not considered a trip-generating land use. To the extent that existing parking is associated with land uses on the proposed project site, those uses are captured in the baseline analysis. Further discussion is included in Section 5.3 Proposed Mobile Emissions Results, as well as in the accompanying document, AB 900 Transportation Assessment for San Jose Downtown West Mixed-Use Plan.

Trip generation and the corresponding VMT for the proposed site were based on a project-specific analysis by Nelson Nygaard Consulting Associated. This analysis estimated the proposed daily trips from residents, employees, and visitors to the project site. These trip generation rates and corresponding VMT are shown in Table A. 5 of Appendix A.

The Project location, immediately adjacent to the Diridon Caltrain station and downtown San Jose, leads to a large reduction in auto trips. Further trip reductions are associated with characteristics inherent to the site such as a mix of complementary land uses in close proximity and pedestrian-friendly urban design.

In addition to these site characteristics, Nelson Nygaard developed a comprehensive transportation model to determine likely employee commute behavior with varying levels of transportation demand management investment and measures for reducing single-occupancy vehicle commute trips. This allows a range of likely trip reduction to be determined.

The default fleet mix in CalEEMod was used to define the fleet mix for vehicle trips for both the existing site and the proposed project.

Annual mobile source emissions for vehicle starts, vehicle miles travelled, and idling were estimated in CalEEMod using emissions factors from EMFAC 2014 for both the existing and proposed scenarios. This analysis is conservative, as it does not currently account for future decreases in vehicle emissions. Realistically, emissions factors for mobile source emissions for the project will decrease in future years based on the implementation of Pavley I and II, electrification of vehicles, and fleet turnover.

Emissions were calculated over the period 2024 through 2060 for a mix of TDM strategies that could include, for office uses: providing each employee with a monthly mobility stipend and/or transit pass, continuing a shuttle service, and running supplemental shuttle service to complement existing high-quality, high-frequency public transit. Residential TDM strategies could include: lower parking ratios, unbundled parking, onsite transportation coordinator, and secure bicycle storage.

Equation 1: Mobile Sources Annual Emissions Calculation

$$\text{Annual emissions } [\text{MTCO}_2\text{e}] = \sum_i \left(\text{VMT} \times (\text{P}_{\text{mix}} \times \text{EF}_{\text{RunEx}}) + \text{T}_{\text{Starts}} \times (\text{P}_{\text{mix}} \times \text{EF}_{\text{StrEx}} + \text{P}_{\text{mix}} \times \text{EF}_{\text{IdlEx}})\right)_i$$

Where:

VMT	=	Vehicle miles traveled [miles]
P_{mix}	=	Percent mode of total vehicle mix [%]
T_{Starts}	=	Number of vehicle starts [trips]
EF_{RunEx}	=	GHG emissions factor, running emissions [gCO_2e/mile]
EF_{StrEx}	=	GHG emissions factor, starting emissions [gCO_2e/trip]
EF_{IdlEx}	=	GHG emissions factor, idling emissions [gCO_2e/trip]

4.3 Building Energy

Energy emissions include indirect emissions from electricity used by buildings and direct emissions from natural gas combustion on site. Indirect GHG emissions are the result of electricity generation from offsite power plants.

Energy emissions for the existing uses are calculated using default values in CalEEMod, which are based on the 2005 Title 24 Building Energy Efficiency Standards. This is conservative, considering the majority of the existing buildings were built well before 2005.

Energy emissions for the proposed project are estimated assuming buildings are constructed to comply with Title 24 2019 Building Energy Efficiency Standards. This is a conservative assumption, as San Jose reach code is anticipated in 2020 and will have higher energy standards than Title 24[2]. Consumption for the project was generated using hourly energy models scaled by square footage for each use. Occupancy was assumed based on Title 24 occupancy schedules for residential and retail uses. For office, measured data of occupancy and assumed plug load per employee were based on measured values from similar Google offices.

These represent conservative assumptions for the proposed project at this stage of design and will be refined as design of the buildings progresses to include additional energy saving and renewable energy systems. This includes exploring the incorporation of high performance building design strategies such as improved building envelope design, passive systems, and energy efficient plug and process loads. The incorporation of on-site renewable energy is also under investigation, as discussed in Section 6. It should be noted that all buildings will be required to comply with the City of San Jose Green Building Requirements, which at a minimum require LEED Silver compliance for each building. Achieving these benchmarks will likely require

[2] For more information on the San Jose reach code: http://www.sanjoseca.gov/index.aspx?NID=6357

additional energy savings measures. The project anticipates meeting the AB 900 requirement of LEED Gold through LEED for Neighborhood Development for the entire mixed-use plan, which will require that at least one building be certified LEED Gold.

Thermal service for the buildings was modeled with a central utility plant as currently anticipated in the project design. As noted above, the project is investigating the option to be all-electric for all building uses, including heating. The central utility plant therefore would incorporate centralized cooling and heating with distribution to all buildings. Energy use for cooling and heating generation and distribution was calculated on an hourly basis and summed to create the total energy consumption for the thermal systems. This was added to the baseline building loads to generate the total electricity use for the proposed project.

4.3.1 Electricity

While the project is investigating sourcing its energy from providers with a higher proportion of renewable energy, such as San Jose Clean Energy, modeling conservatively assumes electricity is provided by Pacific Gas and Electric (PG&E). Emissions associated with on-site electricity usage for both the existing and proposed projects are estimated by multiplying the anticipated usage for each scenario by the carbon intensity emission factor of the electrical grid. Carbon intensity emission factors are GHG emissions rates for a given electricity source. Table 7 shows the currently reported annual average emission factors for three GHGs (CO_2, CH_4, and N_2O) for the PG&E grid based on their electricity generation profile.

Table 7: PG&E Electricity Emissions Factors

GREENHOUSE GAS	EMISSIONS FACTOR [lb/MWh]
CO_2	641.35
CH_4	0.029
N_2O	0.006

Using these emissions factors, the annual emissions for the period 2024 through 2062 were calculated using Equation 2.

Equation 2: Building Electricity Annual Emissions Calculation

$$\text{Annual Emissions } [\text{MTCO}_2\text{e}] = \left(\text{D}_\text{E} \times \sum_i (\text{EF}_\text{E} \times \text{GWP})_\text{i}\right) \div 2204.62$$

Where:

D_E	=	Annual electricity consumption [MWh/year]
EF_E	=	GHG emissions factor, electricity [$MTCO_2e$/MWh]
GWP	=	Global warming potential [CO_2=1, CH_4=25, N_2O=298]
2204.62	=	Conversion factor [lb/MT]
i	=	Summation index

PG&E's average carbon intensity is anticipated to change over time due to the California Renewable Portfolio Standard (RPS), which mandates that 33% of electricity come from renewable sources by 2020, 60% from renewable sources by 2030, and 100% from renewable sources by 2045. A three-year average of PG&E's 2014-2016 emissions rates[3] was used as the baseline from which future electricity intensities were projected. The projection assumes the utility achieves the RPS targets. The progress toward the RPS targets is assumed to be linear, year over year. The results of this decarbonization calculation are tabulated in Table A.3 in Appendix A.

4.3.2 Natural Gas

GHG emissions from natural gas combustion are generated from residential, commercial, and industrial usage in the baseline condition. Both natural gas usage rates and natural gas emissions factors reflect CalEEMod default assumptions for the baseline condition.

For the proposed project, the design may preclude use of on-site combustion from new development within the site. Currently, this is the assumed design, and therefore, all thermal systems (including heating, domestic hot water, and cooking) are anticipated to be all-electric. Therefore, zero natural gas consumption is assumed for the proposed scenario. If this proves infeasible, natural gas consumption will be modeled and accounted for in emissions calculations.

In order to calculate the baseline emissions from natural gas, Equation 3 was used.

[3] Source: http://www.pgecorp.com/corp_responsibility/reports/2018/en02_climate_change.html

Equation 3: Building Natural Gas Annual Emissions Calculation

$$\text{Annual Emissions } [\text{MTCO}_2\text{e}] = \left(\sum_i \left((\text{EI}_{\text{T24}} + \text{EI}_{\text{NT24}}) \times \text{A}_{\text{use}} \times 1000 \times \text{EF}_{\text{NG}} \times \text{GWP}\right)_i\right)$$

Where:

EI_{T24}	=	Natural gas energy intensity, Title 24 [kBtu/ sq.ft./year]
EI_{NT24}	=	Natural gas energy intensity, non-Title 24 [kBtu/ sq.ft./year]
A_{use}	=	Area per land use sub type [sq.ft.]
1000	=	Conversion factor [kBtu/MMBtu]
EF_{NG}	=	GHG emissions factor, natural gas [$MTCO_2e$/MMBtu]
GWP	=	Global warming potential [CO_2=1, CH_4=25, N_2O=298]
2204.62	=	Conversion factor [lb/MT]
i	=	Summation index

4.4 Water and Wastewater Sources

GHG emissions are generated from water and wastewater sources in several ways. These include indirect water utility emissions generated from the supply, distribution, and treatment of water and wastewater, as well as the direct emissions released throughout the wastewater treatment process, and inclusive of anticipated use of the recycled water provided by the City of San Jose.

Water consumption estimates for both the existing land uses and the proposed project were calculated in CalEEMod. The data source for most of these estimates is the Pacific Institute's "Waste Not Want Not" report. It is noted that this approach of using CalEEMod defaults for the proposed projects is considered conservative. Strategies that could further reduce water- and wastewater-related emissions are currently being investigated such as the use of an efficient on-site water treatment system.

The annual water use (V_W) and electricity factor for water utility emissions (EI_W) were calculated separately for indoor water use and outdoor water use. Direct emissions from indoor water use treatment was also accounted for. The project is currently investigating multiple options for treatment processes, however to be conservative in this analysis the state's average treatment process split between septic tank (10%), aerobic (88%), and facultative lagoon (2%) was used.

Equation 4: Water & Wastewater Annual Emissions Calculation

$$\text{Annual Emissions } [\text{MTCO}_2\text{e}] = \left(\left(\sum_i \left(V_{W_I} \times \left(\text{EI}_{\text{W}_{\text{IU}}} \div 1000\right) \times \text{EF}_{\text{W}} \times \text{GWP}\right)_{\text{i}}\right) + \left(\sum_i \left(V_{W_O} \times \left(\text{EI}_{\text{W}_{\text{OU}}} \div 1000\right) \times \text{EF}_{\text{W}} \times \text{GWP}\right)_{\text{i}}\right) + \left(\sum_i \left(V_{W_I} \times R_T \times EF_T \times GWP \times 0.9072\right)_i\right)\right) \div 2204.62$$

Where:

V_{W_I}	=	Annual indoor water use [gal/year]
V_{W_O}	=	Annual outdoor water use [gal/year]
$EI_{W_{IU}}$	=	Intensity factor for indoor water utility emissions [kWh/Mgal]
$EI_{W_{OU}}$	=	Intensity factor for outdoor water utility emissions [kWh/Mgal]
1000	=	Conversion factor [kWh/MWh]
EF_W	=	GHG emissions factor [$MTCO_2e$/MWh]
GWP	=	Global warming potential [CO_2=1, CH_4=25, N_2O=298]
R_T	=	Percent of total water per treatment [%]
EF_T	=	GHG emissions factor per treatment process [$MTCO_2e$/MWh]
0.9072	=	Conversion factor [ton/MT]
2204.62	=	Conversion factor [lb/MT]
i	=	Summation index

4.5 Municipal Solid Waste

GHG emissions associated with municipal solid waste (MSW) disposal for the existing land uses were based on CalEEMod defaults. CalEEMod uses annual waste disposal rates sourced from CalRecycle for individual land uses. Corresponding emissions are the result of decomposition of the generated waste. Waste generation rates for the proposed project were based on a project-specific analysis[4]. Assumptions are given in Table A. 7 in Appendix A. These waste generation rates were translated to GHG emissions using the default emissions factors provided by CalEEMod.

For the proposed project, landfill diversion rates of 84%[5] for commercial uses was used from the site-specific analysis. Diversion rates of 82% for residential and 83% for retail from CalRecycle were used. Annual emissions for landfilled waste was calculated for the period 2024

[4] Note: Waste from logistics hubs has not been calculated at this time as there are too many unknowns surrounding the supply chain and if waste will actually be generated in significant quantities at this site. For the Central Utility Plant, no operation waste is likely to be produced at this site. Waste will be generated during routine maintenance and servicing and all components that are replaced will be removed by the engineer undertaking the servicing etc.

[5] Google-specific data via Arup Logistics

to 2060. Emission factors (EF_{CH_4} and EF_{CO_2}) were calculated based on assumed gas capture rated consistent with the CalEEMod baseline; with 94% of gas captured and flared, and 6% of gas not captured.

Equation 5: Waste Gas Capture and Escape Calculation

$$\mathrm{EF_{CH_4}} = \left(\mathrm{R_{NC}} \times \mathrm{IF_{CH_4,NC}} + \mathrm{R_{C\&F}} \times \mathrm{IF_{CH_4,C\&F}}\right)$$
$$\mathrm{EF_{CO_2}} = \left(\mathrm{R_{NC}} \times \mathrm{IF_{CO_2,NC}} + \mathrm{R_{C\&F}} \times \mathrm{IF_{CO_2,C\&F}}\right)$$

Where:

R_{NC}	=	Capture rate [%] of gas not captured
$R_{C\&F}$	=	Capture rate [%] of gas captured and flared
$IF_{CH_4,NC}$	=	Intensity factor for CH_4 not captured [$MTCH_4$/ton waste]
$F_{CH_4,C\&F}$	=	Intensity factor for CH_4captured and flared [$MTCH_4$/ton waste]
$IF_{CO_2,NC}$	=	Intensity factor for CO_2 not captured [$MTCO_2$/ton waste]
$IF_{CO_2,C\&F}$	=	Intensity factor CO_2 captured and flared [$MTCO_2$/ton waste]

Equation 6: Municipal Solid Water Annual Emissions Calculation

$$\text{Annual emissions } [\mathrm{MTCO_2e}] = \left(\sum\left((\mathrm{W_C} + \mathrm{W_R}) \times (\mathrm{EF_{CH_4}} + \mathrm{EF_{CO_2}}) \times \mathrm{GWP}\right)_{\mathrm{i}}\right)$$

Where:

W_C	=	Commercial waste [tons/year]
W_R	=	Residential waste [tons/year]
EF_{CH_4}	=	GHG emissions factor for $\mathrm{CH_4}$ [$MTCH_4$/ton waste]
EF_{CO_2}	=	GHG emissions factor for $\mathrm{CO_2}$ [$MTCO_2$/ton waste]
GWP	=	Global warming potential [CO_2=1, CH_4=25, N_2O=298]
2204.62	=	Conversion factor [lb/MT]
i	=	Summation index

4.6 Landscaping/Area Sources

Maintenance of the project site results in emissions from landscaping and related equipment. Additional area emissions include those associated with hearths and consumer product consumption. These maintenance and area emissions for both the existing land uses and the proposed project were estimated in CalEEMod using the default values. Hearth-related emissions were assumed to be zero for the proposed project, as wood stoves and fireplaces are not planned. For landscaping emissions, the following equation was used.

Equation 7: Landscaping Annual Emissions Calculation

$$Annual\ emissions\ [\ MTCO_2e] = \left(\sum_i (Units \times EF_{LE} \times A_{LE} \times GWP)_i\right) \div 10^6$$

Where:

Units	=	Number of land use units [DU or 1000 sq.ft]
EF_{LE}	=	GHG emissions factor [gCO_2e/DU/day or gCO_2e/1000 sq.ft./day]
A_{LE}	=	Landscaping equipment operating days per year [days/year]
GWP	=	Global warming potential [CO_2=1, CH_4=25, N_2O=298]
10^6	=	Conversion factor [g/MT]
i	=	Summation index

4.7 Generator Emissions

GHG emissions result from the operation of backup generators. The proposed project includes approximately one 300 kW generator per building (assumed to be one generator per 500,000 sq.ft.). CalEEMod default assumptions were used to calculate the emissions associated with generator use. These assumptions include an annual operation limit of 50 hours for routine maintenance and testing.

Equation 8: Generator Annual Emissions Calculation

$$\text{Annual emissions } [\text{MTCO}_2\text{e}] = \sum \left(\text{EF} \times \text{Q}_{\text{gen}} \times \text{HP} \times \text{Load} \times \text{Activity}\right)_{\text{i}}$$

Where:

EF	=	GHG emissions factor [$MTCO_2e$/hp-hr]
Q_{gen}	=	Quantity of generators
HP	=	Maximum rated horsepower [hp]
Load	=	Load factor [dimensionless]
Activity	=	Hours of operation [hours per day, hours per year]
i	=	Summation index

4.8 Carbon Sequestration

Carbon sequestration from vegetation on the project site is based on the vegetation type and quantity. A tree assessment was undergone to identify the types and number of trees on the current site, and to account for which trees may be removed during development. In addition, an inventory of proposed trees has been developed to account for future sequestration potential on the site. Quantities of existing and proposed trees can be found in Table A.5 and Table A.6 in Appendix A, respectively. CalEEMod default sequestration factors were used. The following approach was used to quantify sequestration potential for both the baseline and proposed cases.

Equation 9:Vegetation Annual Sequestration Calculation

$$\text{Annual Sequastration } [\text{MTCO}_2\text{e}] = \sum_{\text{i}} (\text{C}_\text{T} * \text{SF}_\text{T})_\text{i}$$

Where:

C_T	=	Count of trees per species
SF_T	=	Sequestration factor per species [$MTCO_2$/tree/year]

5 GHG Emissions Results

This section quantifies the results of the emissions analysis based on the project's design. The emissions calculations will be updated throughout design with emissions calculated at project completion for final certification.

5.1 Baseline Emissions Results

Annual baseline emissions were calculated using the land program in Table 2 and the default inputs for each use type within CalEEMod. These inputs represent state averages for each use and emissions category. A preliminary tree assessment on the current site was also incorporated to estimate sequestration using CalEEMod default factors. Annual baseline operational emissions are quantified in Table 8 below.

Table 8: Summary of baseline emissions

CATEGORY	EMISSIONS [$MTCO_2e/yr$]
Electricity	1,753
Natural gas	250
Mobile sources	5,639
Solid waste	393
Water + wastewater	324
Landscaping/area	1.3
Stationary sources	0
Sequestration	-11
TOTAL	**8,350**

5.2 Proposed Construction Emissions Results

Construction related emissions are applicable only to the proposed project. Construction emissions are based currently on default assumptions based on the project size in CalEEMod. Table 9 presents the project's annual and total construction-related emissions. Total GHG emissions from construction activities are estimated at 97,189 $MTCO_2e$ for the proposed project.

Table 9: Project Construction-Related GHG Emissions

PHASE	CONSTRUCTION YEAR	GHG EMISSIONS [$MTCO_2e$]
1	2021	6,695
1	2022	18,363
1	2023	17,302
1 & 2	2024	18,917
2	2025	18,301
2	2026	17,697
2 & 3	2027	18,536
2	2028	15,352
3	2029	15,129
3	2030	10,954
TOTAL		**157,247**

5.3 Proposed Mobile Emissions Results

Mobile emissions are based on anticipated vehicle travel to and from the site generated by the uses on-site. Additional trips generated by proximal but offsite uses (e.g. SAP Center or other downtown commercial uses) which may utilize the streets within the proposed project are not included in either the baseline or the proposed emissions. Further discussion of this assumption is included in the accompanying document, AB 900 Transportation Assessment for Downtown West Mixed-Use Plan, under the section Non-Trip Generating Land Uses. Additionally, assumptions on TDM impacts are based on the strategies outlined in the TDM report. Table 10 below provides the results of mobile emissions and impacts from TDM packages.

Table 10: Annual Emissions from Mobile Sources

YEAR	MOBILE SOURCE GHG EMISSIONS [$MTCO_2e/yr$]
2024	17,734
2025	17,713
2026	17,691
2027	43,861
2028	43,861
2029	43,819
2030	58,355
2031	58,355
2032	58,355
2033	58,342
2034	58,328
2035	58,315
2036	58,302
2037	58,288
2038	58,275
2039	58,261
2040	58,248
2041	58,235
2042	58,221

YEAR	MOBILE SOURCE GHG EMISSIONS [$MTCO_2e/yr$]
2043	58,208
2044	58,194
2045	58,181
2046	58,168
2047	58,154
2048	58,141
2049	58,127
2050	58,114
2051	58,101
2052	58,087
2053	58,074
2054	58,074[6]
2055	41,398
2056	41,389
2057	41,381[7]
2058	15,533
2059	15,529
2060	15,525

[6] End of Phase 1 30-year operational reporting period
[7] End of Phase 2 30-year operational reporting period

5.4 Proposed Energy Emissions Results

The proposed project currently is designed without combustion. Therefore, energy emissions are solely due to electricity for the proposed project; should this be changed, natural gas emissions will be accounted for in the proposed project. The estimated annual emissions from electricity consumption during the period calculated are provided in Table 11:

Table 11: Annual Emissions from Electricity

YEAR	ELECTRICITY [MWh/yr]	GHG EMISSIONS (DECARBONIZED) [$MTCO_2e$/yr]
2024	69,927	9,586
2025	69,927	9,126
2026	69,927	8,665
2027	153,717	18,036
2028	153,717	17,024
2029	153,717	16,011
2030	219,403	21,408
2031	219,403	19,963
2032	219,403	18,518
2033	219,403	17,073
2034	219,403	15,628
2035	219,403	14,183
2036	219,403	12,738
2037	219,403	11,293
2038	219,403	9,848
2039	219,403	8,403
2040	219,403	6,958
2041	219,403	5,513
2042	219,403	4,068
2043	219,403	2,622
2044	219,403	1,177
2045	219,403	0[8]
2046	219,403	0

[8] PG&E Grid becomes decarbonized in 2045 in line with CA RPS

2047	219,403	0
2048	219,403	0
2049	219,403	0
2050	219,403	0
2051	219,403	0
2052	219,403	0
2053	219,403	0
2054	219,403	0
2055	149,465	0
2056	149,465	0
2057	149,465	0
2058	65,681	0
2059	65,681	0
2060	65,681	0

5.5 Proposed Water Emissions Results

Water emissions for the proposed project are based on the anticipated water use including anticipated use of recycled water currently provided by the City of San Jose as well as treatment from the municipal wastewater treatment network. Given the three phases of use, annual emissions for proposed phases 1, 2 and 3 are shown in Table 12,

Table 13, and

Table 14, respectively. The project will be exploring options for on-site wastewater treatment, coupled with the beneficial reuse of recycled water as a means to improve resource efficiency from a water and carbon perspective.

Table 12: Annual Emissions from Water & Wastewater for Proposed Phase 1

LAND USE SUBTYPE	CO2 EMISSIONS [$MTCO_2$/yr]	CH4 EMISISONS [$MTCH_4$/yr]	N20 EMISSIONS [MTN_2O/yr]	GHG EMISSIONS [$MTCO_2e$/yr]
General Office Building	1,161.84	15.10	0.37	1,648.30
Retail	18.62	0.24	0.01	26.42
Hotel	0.00	0.00	0.00	0.00
Apartments High Rise	329.95	4.26	0.10	467.13
Limited-term corporate accommodation	41.24	0.53	0.01	58.39
Event facility - Arena	0.00	0.00	0.00	0.00
Logistics Center	21.86	0.38	0.01	34.00
Central Utility Plant	0.00	0.00	0.00	0.00
Open space	6.06	0.00	0.00	6.09
TOTAL	**1,579.58**	**20.52**	**0.50**	**2,240.34**

Table 13: Annual Emissions from Water & Wastewater for Proposed Phase 2

LAND USE SUBTYPE	CO2 EMISSIONS [$MTCO_2$/yr]	CH4 EMISISONS [$MTCH_4$/yr]	N20 EMISSIONS [MTN_2O/yr]	GHG EMISSIONS [$MTCO_2e$/yr]
General Office Building	1,161.84	15.10	0.37	1,648.30
Retail	52.15	0.68	0.02	73.98
Hotel	0.00	0.00	0.00	0.00
Apartments High Rise	379.44	4.90	0.12	537.20
Limited-term corporate accommodation	41.24	0.53	0.01	58.39
Event facility - Arena	0.00	0.00	0.00	0.00
Logistics Center	0.00	0.00	0.00	0.00
Central Utility Plant	0.00	0.00	0.00	0.00
Open space	6.06	0.00	0.00	6.09
TOTAL	**1,640.74**	**21.21**	**0.51**	**2,323.96**

Table 14: Annual Emissions from Water & Wastewater for Proposed Phase 3

LAND USE SUBTYPE	CO2 EMISSIONS [$MTCO_2$/yr]	CH4 EMISISONS [$MTCH_4$/yr]	N20 EMISSIONS [MTN_2O/yr]	GHG EMISSIONS [$MTCO_2e$/yr]
General Office Building	938.41	12.20	0.30	1,331.32
Retail	22.35	0.29	0.01	31.71
Hotel	10.16	0.17	0.00	15.50
Apartments High Rise	263.96	3.41	0.08	373.71
Limited-term corporate accommodation	49.49	0.64	0.02	70.07
Event facility - Arena	84.24	1.41	0.03	129.49
Logistics Center	21.86	0.38	0.01	34.00
Central Utility Plant	0.00	0.00	0.00	0.00
Open space	6.06	0.00	0.00	6.09
TOTAL	**1,396.53**	**18.49**	**0.45**	**1,991.87**

The above three tables combine to the annual water emissions provided in Table 15.

Table 15: Annual Emissions from Water & Wastewater

YEAR	CO2 EMISSIONS [$MTCO_2$/yr]	CH4 EMISISONS [$MTCH_4$/yr]	N20 EMISSIONS [MTN_2O/yr]	GHG EMISSIONS [$MTCO_2e$/yr]
2024	1,580	20.52	0.50	2,240
2025	1,580	20.52	0.50	2,240
2026	1,580	20.52	0.50	2,240
2027	3,220	41.73	1.01	4,564
2028	3,220	41.73	1.01	4,564
2029	3,220	41.73	1.01	4,564
2030	4,617	60.21	1.46	6,556
2031	4,617	60.21	1.46	6,556
2032	4,617	60.21	1.46	6,556
2033	4,617	60.21	1.46	6,556
2034	4,617	60.21	1.46	6,556
2035	4,617	60.21	1.46	6,556
2036	4,617	60.21	1.46	6,556
2037	4,617	60.21	1.46	6,556
2038	4,617	60.21	1.46	6,556
2039	4,617	60.21	1.46	6,556
2040	4,617	60.21	1.46	6,556
2041	4,617	60.21	1.46	6,556
2042	4,617	60.21	1.46	6,556
2043	4,617	60.21	1.46	6,556
2044	4,617	60.21	1.46	6,556
2045	4,617	60.21	1.46	6,556
2046	4,617	60.21	1.46	6,556
2047	4,617	60.21	1.46	6,556
2048	4,617	60.21	1.46	6,556
2049	4,617	60.21	1.46	6,556

2050	4,617	60.21	1.46	6,556
2051	4,617	60.21	1.46	6,556
2052	4,617	60.21	1.46	6,556
2053	4,617	60.21	1.46	6,556
2054	4,617	60.21	1.46	6,556[9]
2055	3,037	39.70	0.96	4,316
2056	3,037	39.70	0.96	4,316
2057	3,037	39.70	0.96	4,316[10]
2058	1,397	18.49	0.45	1,992
2059	1,397	18.49	0.45	1,992
2060	1,397	18.49	0.45	1,992

[9] End of Phase 1 30-year operational reporting period
[10] End of Phase 2 30-year operational reporting period

5.6 Proposed Waste Emissions Results

Table 16 below provides the current estimates for waste emissions from the proposed project. Note that the generation rates are based on implementation of anticipated waste collection and diversion strategies as well as high recycling rates within San Jose through the municipal waste collection.

Table 16: Annual Emissions from Municipal Solid Waste

YEAR	TOTAL [tons waste/yr]	CH4 EMISISONS [$MTCH_4$/yr]	CO2 EMISSIONS [$MTCO_2$/yr]	GHG EMISSIONS [$MTCO_2e$/yr]
2024	230.9	2.8	46.8	116.2
2025	230.9	2.8	46.8	116.2
2026	230.9	2.8	46.8	116.2
2027	498.9	6.0	101.2	251.0
2028	498.9	6.0	101.2	251.0
2029	498.9	6.0	101.2	251.0
2030	700.8	8.4	142.2	352.7
2031	700.8	8.4	142.2	352.7
2032	700.8	8.4	142.2	352.7
2033	700.8	8.4	142.2	352.7
2034	700.8	8.4	142.2	352.7
2035	700.8	8.4	142.2	352.7
2036	700.8	8.4	142.2	352.7
2037	700.8	8.4	142.2	352.7
2038	700.8	8.4	142.2	352.7
2039	700.8	8.4	142.2	352.7
2040	700.8	8.4	142.2	352.7
2041	700.8	8.4	142.2	352.7
2042	700.8	8.4	142.2	352.7
2043	700.8	8.4	142.2	352.7
2044	700.8	8.4	142.2	352.7
2045	700.8	8.4	142.2	352.7
2046	700.8	8.4	142.2	352.7
2047	700.8	8.4	142.2	352.7

2048	700.8	8.4	142.2	352.7
2049	700.8	8.4	142.2	352.7
2050	700.8	8.4	142.2	352.7
2051	700.8	8.4	142.2	352.7
2052	700.8	8.4	142.2	352.7
2053	700.8	8.4	142.2	352.7
2054	700.8	8.4	142.2	352.7[11]
2055	469.8	5.6	95.3	236.4
2056	469.8	5.6	95.3	236.4
2057	469.8	5.6	95.3	236.4[12]
2058	201.8	2.4	40.9	101.5
2059	201.8	2.4	40.9	101.5
2060	201.8	2.4	40.9	101.5

[11] End of Phase 1 30-year operational reporting period
[12] End of Phase 2 30-year operational reporting period

5.7 Proposed Emissions from Stationary Sources

Table 17 shows the resulting emissions by phase for emergency backup generators.

Table 17: Annual Emissions from Stationary Sources

YEAR	GHG EMISSIONS [$MTCO_2e/yr$]
2024	8
2025	8
2026	8
2027	16
2028	16
2029	16
2030	23
2031	23
2032	23
2033	23
2034	23
2035	23
2036	23
2037	23
2038	23
2039	23
2040	23
2041	23
2042	23

YEAR	GHG EMISSIONS [$MTCO_2e/yr$]
2043	23
2044	23
2045	23
2046	23
2047	23
2048	23
2049	23
2050	23
2051	23
2052	23
2053	23
2054	23[13]
2055	15
2056	15
2057	15[14]
2058	7
2059	7
2060	7

[13] End of Phase 1 30-year operational reporting period
[14] End of Phase 2 30-year operational reporting period

5.8 Proposed Sequestration from Vegetation

Table 18 shows a summary of the carbon sequestration potential of the proposed vegetation plans. Sequestration is shown as a negative number in contrast to emissions from other sources.

Table 18: Annual GHG Sequestration from Vegetation

YEAR	GHG SEQUESTRATION [$MTCO_2e/yr$]
2024	-9.91
2025	-9.91
2026	-9.91
2027	-19.12
2028	-19.12
2029	-19.12
2030	-29.21
2031	-29.21
2032	-29.21
2033	-29.21
2034	-29.21
2035	-29.21
2036	-29.21
2037	-29.21
2038	-29.21
2039	-29.21
2040	-29.21
2041	-29.21
2042	-29.21

YEAR	GHG SEQUESTRATION [$MTCO_2e/yr$]
2043	-29.21
2044	-29.21
2045	-29.21
2046	-29.21
2047	-29.21
2048	-29.21
2049	-29.21
2050	-29.21
2051	-29.21
2052	-29.21
2053	-29.21
2054	-29.21[15]
2055	-19.30
2056	-19.30
2057	-19.30[16]
2058	-10.09
2059	-10.09
2060	-10.09

[15] End of Phase 1 30-year operational reporting period
[16] End of Phase 2 30-year operational reporting period

5.9 Summary of Proposed Operational GHG Emissions

Operational emissions for the proposed project are given in Table 19 below.

Table 19: Operational GHG Emissions Summary for 2030 (full build-out)

CATEGORY	GHG EMISSIONS [$MTCO_2e/yr$]
Mobile	58,355
Electricity	21,408
Natural gas	0
Water and wastewater	6,556
Solid waste	353
Landscape/area	83
Back-up generators	23
Sequestration	-29
Total	**86,749**

5.10 Overall Year-By-Year Emissions

The gross year-by-year overall emissions for the proposed project are shown in Table 20. These values do not include the baseline emissions. Emissions were evaluated over a 30-year period for each phase. The table also includes project construction emissions. Operational emissions for the proposed project exceed those of the existing conditions for all years considered.

Table 20: Overall Year-by-Year Emissions

YEAR	CONSTRUCTION EMISSIONS [$MTCO_2e/yr$]	OPERATIONAL EMISSIONS [$MTCO_2e/yr$]	YEAR	CONSTRUCTION EMISSIONS [$MTCO_2e/yr$]	OPERATIONAL EMISSIONS [$MTCO_2e/yr$]
2021	6,695	--	2042	--	69,275
2022	18,363	--	2043	--	67,816
2023	17,302	--	2044	--	66,358
2024	18,917	29,703	2045	--	65,167
2025	18,301	29,221	2046	--	65,154
2026	17,697	28,739	2047	--	65,140
2027	18,536	66,769	2048	--	65,127
2028	15,352	65,756	2049	--	65,113
2029	15,129	64,702	2050	--	65,100
2030	10,954	86,749	2051	--	65,087
2031	--	85,304	2052	--	65,073
2032	--	83,859	2053	--	65,060
2033	--	82,401	2054	--	65,060[17]
2034	--	80,942	2055	--	46,002
2035	--	79,484	2056	--	45,993
2036	--	78,025	2057	--	45,985[18]
2037	--	76,567	2058	--	17,646
2038	--	75,109	2059	--	17,643
2039	--	73,650	2060	--	17,639
2040	--	72,192	**Total**	**157,247**	**2,275,342**
2041	--	70,733			

[17] End of Phase 1 30-year operational reporting period
[18] End of Phase 2 30-year operational reporting period

The annual net increase in GHG emissions are given in Table 21 below.

Table 21: Overall Year-by-Year Increase in Emissions

YEAR	GROSS EMISSIONS [$MTCO_2e/yr$]	NET INCREASE IN EMISSIONS [$MTCO_2e/yr$]
2021	6,695	0
2022	18,363	10,014
2023	17,302	8,952
2024	48,619	40,270
2025	47,522	39,172
2026	46,436	38,087
2027	85,305	76,955
2028	81,108	72,759
2029	79,831	71,482
2030	97,704	89,354
2031	85,304	76,955
2032	83,859	75,510
2033	82,401	74,051
2034	80,942	72,593
2035	79,484	71,134
2036	78,025	69,676
2037	76,567	68,217
2038	75,109	66,759
2039	73,650	65,300
2040	72,192	63,842
2041	70,733	62,384
2042	69,275	60,925
2043	67,816	59,467
2044	66,358	58,008
2045	65,167	56,817
2046	65,154	56,804
2047	65,140	56,791
2048	65,127	56,777
2049	65,113	56,764
2050	65,100	56,750
2051	65,087	56,737
2052	65,073	56,724
2053	65,060	56,710
2054	65,060	56,710
2055	46,002	37,652
2056	45,993	37,643
2057	45,985	37,635
2058	17,646	9,297
2059	17,643	9,293
2060	17,639	9,289
Total	**2,432,589**	**2,100,260**

6 GHG Offsetting Measures

To offset the increase in GHG emissions from project construction beginning in 2021 and operations through 2060, the project sponsor commits to measures to ensure there will be no net additional GHG emissions associated with the project during construction, and for 30 years of operations.

The analysis in this document includes various conservative assumptions: calculations were performed using the upper bound of contemplated land use program ranges, CalEEMod and other default assumptions were used where better-performing options were still under study, and energy sources as well as energy code were assumed to be those currently known or available, rather than more efficient or more renewable options anticipated in the future. Therefore, the project anticipates lower emissions than modeled in this conservative analysis.

Since 2007, Google has offset 100% of its emissions. Additionally, Google is already committed to offsetting 100% of its energy from global operations with renewable sources. In line with this goal, the project will endeavor to source 100% of its energy from renewable sources and is exploring going further toward local decarbonization through the use of on-site renewable energy generation. Studies are currently being undertaken to evaluate the potential of applying photovoltaic panels to the rooftops and facades of buildings within the district. Subscription to a local Community Choice Energy organization such as San Jose Clean Energy can also provide a strategy to achieve 100% renewable power, via the “TotalGreen” purchasing option.

In its current facilities, Google also requires electric vehicle charging stations beyond the minimum required in the State of California, and the City of San Jose is anticipated to introduce new requirements for EV infrastructure charging facilities in its 2020 reach code. The project's intent is to continue the acceleration of the transition to electric vehicles. Where possible, additional TDM measures will also be evaluated to ensure that the location’s high density of quality transit can most effectively be used to offset vehicular emissions. Electrification of mass transit in line with state and local plans will also help achieve this aim; the project sponsor continues to be aligned with these efforts.

For remaining emissions, the project sponsor currently provides offsets for business activities through the purchase of renewable power and retirement of the associated renewable energy credits as well as purchase of verifiable, permanent GHG offsets sourced through high quality market and direct mechanisms. The project sponsor commits to extend these activities to cover the scopes of emissions related to construction and operation of this project, and to require the same of partners who may deliver other components of the project.

Appendix A: Supporting Tables

Table A. 1: Project Characteristics

Project Name	**Phase 1**	**Phase 2**	**Phase 3**
Project Location	Santa Clara County	Santa Clara County	Santa Clara County
Wind Speed (m/s)	2.2	2.2	2.2
Precipitation Frequency (days)	58	58	58
Climate Zone	4	4	4
Land Use Setting	Urban	Urban	Urban
Operational Year	2024	2027	2030
Utility Company	Pacific Gas & Elec.	Pacific Gas & Elec.	Pacific Gas & Elec
CO_2 Intensity Factor (lb/MWh)	302	244	186
CH_4 Intensity Factor (lb/MWh)	0.029	0.029	0.029
N_2O Intensity Factor (lb/MWh)	0.006	0.006	0.006
CO_2e Intensity Factor (lb/MWh)	643.52	643.52	643.52

Table A. 2: Proposed Construction Schedule, Phase 1

CONSTRUCTION PHASE NAME	PHASE TYPE	TOTAL WORKER DAYS
Demolition	Demolition	200
Site Preparation	Site Preparation	120
Grading	Grading	310
Building Construction	Building Construction	3,100
Paving	Paving	220
Architectural Coating	Architectural Coating	220

Table A. 3: Proposed Construction Schedule, Phase 2

CONSTRUCTION PHASE NAME	PHASE TYPE	TOTAL WORKER DAYS
Demolition	Demolition	200
Site Preparation	Site Preparation	120
Grading	Grading	310
Building Construction	Building Construction	3,100
Paving	Paving	220
Architectural Coating	Architectural Coating	220

Table A. 4: Proposed Construction Schedule, Phase 3

CONSTRUCTION PHASE NAME	PHASE TYPE	TOTAL WORKER DAYS
Demolition	Demolition	200
Site Preparation	Site Preparation	120
Grading	Grading	310
Building Construction	Building Construction	3,100
Paving	Paving	220
Architectural Coating	Architectural Coating	220

Table A. 5: Trip Generation Rates and Vehicle Miles Travelled

YEAR	ANNUAL TRIPS	VMT (mi)
2024	7,095,159	67,306,186
2025	7,095,159	67,220,237
2026	7,095,159	67,134,287
2027	18,470,107	165,908,475
2028	18,470,107	165,908,475
2029	18,470,107	165,740,948
2030	24,573,045	220,737,109
2031	24,573,045	220,737,109
2032	24,573,045	220,737,109
2033	24,573,045	220,683,009
2034	24,573,045	220,628,910
2035	24,573,045	220,574,810
2036	24,573,045	220,520,711
2037	24,573,045	220,466,611
2038	24,573,045	220,412,512
2039	24,573,045	220,358,412
2040	24,573,045	220,304,312
2041	24,573,045	220,250,213
2042	24,573,045	220,196,113
2043	24,573,045	220,142,014
2044	24,573,045	220,087,914
2045	24,573,045	220,033,815
2046	24,573,045	219,979,715
2047	24,573,045	219,925,616
2048	24,573,045	219,871,516
2049	24,573,045	219,817,417
2050	24,573,045	219,763,317
2051	24,573,045	219,709,217
2052	24,573,045	219,655,118

2053	24,573,045	219,601,018
2054	24,573,045	219,601,018
2055	17,817,202	156,361,958
2056	17,817,202	156,327,463
2057	17,817,202	156,292,968
2058	6,546,031	58,750,933
2059	6,546,031	58,736,042
2060	6,546,031	58,721,151

Table A. 6: PG&E Grid Decarbonization Projection

YEAR	CO_2 INTENSITY PER TOTAL DELIVERED ENERGY ($lbCO_2/MWh$)	TOTAL ENERGY FROM RENEWABLES (%)	CO_2E INTENSITY PER TOTAL DELIVERED ENERGY ($lbCO_2e/MWh$)
2014-2016 3-yr avg	378	30%	378
2024	302	44%	302
2025	288	47%	288
2026	273	49%	273
2027	259	52%	259
2028	244	55%	244
2029	230	57%	230
2030	215	60%	215
2031	201	63%	201
2032	186	65%	186
2033	172	68%	172
2034	157	71%	157
2035	143	74%	143
2036	128	76%	128
2037	113	79%	113
2038	99	82%	99
2039	84	84%	84
2040	70	87%	70
2041	55	90%	55
2042	41	92%	41
2043	26	95%	26
2044	12	98%	12
2045+	0	100%	0

Table A. 7: Solid Waste Total Annual Generation

YEAR	COMMERCIAL [tons/yr]	RESIDENTIAL [tons/yr]	RETAIL [tons/yr]	HOTEL [tons/yr]	EVENT CENTER [tons/yr]	CORPORATE ACCOMODATION [tons/yr]	TOTAL WASTE [tons/yr]
2024	956	343	101	0	0	43	1,443
2025	956	343	101	0	0	43	1,443
2026	956	343	101	0	0	43	1,443
2027	1,912	737	383	0	0	86	3,118
2028	1,912	737	383	0	0	86	3,118
2029	1,912	737	383	0	0	86	3,118
2030	2,685	1,011	504	13	29	138	4,380
2031	2,685	1,011	504	13	29	138	4,380
2032	2,685	1,011	504	13	29	138	4,380
2033	2,685	1,011	504	13	29	138	4,380
2034	2,685	1,011	504	13	29	138	4,380
2035	2,685	1,011	504	13	29	138	4,380
2036	2,685	1,011	504	13	29	138	4,380
2037	2,685	1,011	504	13	29	138	4,380
2038	2,685	1,011	504	13	29	138	4,380
2039	2,685	1,011	504	13	29	138	4,380
2040	2,685	1,011	504	13	29	138	4,380
2041	2,685	1,011	504	13	29	138	4,380
2042	2,685	1,011	504	13	29	138	4,380
2043	2,685	1,011	504	13	29	138	4,380
2044	2,685	1,011	504	13	29	138	4,380
2045	2,685	1,011	504	13	29	138	4,380
2046	2,685	1,011	504	13	29	138	4,380

2047	2,685	1,011	504	13	29	138	4,380
2048	2,685	1,011	504	13	29	138	4,380
2049	2,685	1,011	504	13	29	138	4,380
2050	2,685	1,011	504	13	29	138	4,380
2051	2,685	1,011	504	13	29	138	4,380
2052	2,685	1,011	504	13	29	138	4,380
2053	2,685	1,011	504	13	29	138	4,380
2054	2,685	1,011	504	13	29	138	4,380
2055	1,728	668	403	13	29	95	2,936
2056	1,728	668	403	13	29	95	2,936
2057	1,728	668	403	13	29	95	2,936
2058	772	274	121	13	29	52	1,261
2059	772	274	121	13	29	52	1,261
2060	772	274	121	13	29	52	1,261

Table 22: Solid Waste Landfill Annual Generation

YEAR	COMMERCIAL [tons/yr]	RESIDENTIAL [tons/yr]	RETAIL [tons/yr]	HOTEL [tons/yr]	EVENT CENTER [tons/yr]	CORPORATE ACCOMODATION [tons/yr]	TOTAL WASTE [tons/yr]
2024	153	55	16	0	0	7	231
2025	153	55	16	0	0	7	231
2026	153	55	16	0	0	7	231
2027	306	118	61	0	0	14	499
2028	306	118	61	0	0	14	499
2029	306	118	61	0	0	14	499
2030	430	162	81	2	5	22	701
2031	430	162	81	2	5	22	701
2032	430	162	81	2	5	22	701
2033	430	162	81	2	5	22	701
2034	430	162	81	2	5	22	701
2035	430	162	81	2	5	22	701
2036	430	162	81	2	5	22	701
2037	430	162	81	2	5	22	701
2038	430	162	81	2	5	22	701
2039	430	162	81	2	5	22	701
2040	430	162	81	2	5	22	701
2041	430	162	81	2	5	22	701
2042	430	162	81	2	5	22	701
2043	430	162	81	2	5	22	701
2044	430	162	81	2	5	22	701
2045	430	162	81	2	5	22	701
2046	430	162	81	2	5	22	701

2047	430	162	81	2	5	22	701
2048	430	162	81	2	5	22	701
2049	430	162	81	2	5	22	701
2050	430	162	81	2	5	22	701
2051	430	162	81	2	5	22	701
2052	430	162	81	2	5	22	701
2053	430	162	81	2	5	22	701
2054	430	162	81	2	5	22	701
2055	276	107	64	2	5	15	470
2056	276	107	64	2	5	15	470
2057	276	107	64	2	5	15	470
2058	124	44	19	2	5	8	202
2059	124	44	19	2	5	8	202
2060	124	44	19	2	5	8	202
Assumes 84% landfill diversion rate (27% compost, 13% recycle, 44% other recoverable)							

Table A. 8: Existing Tree Assessment

TREE SPECIES	TOTAL QUANTITY	QUANTITY TO REMAIN	QUANTITY TO REMOVE
Jacaranda	12	12	0
Shamel Ash	44	22	22
London Plane	148	73	75
Royal Palm	42	42	0
Chinese Elm	20	0	20
Unknown[19]	47	37	10

Table A. 9: Proposed Tree Count, Phase 1

TREE SPECIES	BROAD SPECIES CLASS	NUMBER OF STREET TREES	NUMBER OF PARK TREES	TOTAL NUMBER OF TREES
London Plane	Mixed Hardwood	44	0	44
White Alder	Mixed Hardwood	11	25	36
Poplar	Mixed Hardwood	11	17	28
Fremont Cottonwood	Mixed Hardwood	9	39	48
California Sycamore	Mixed Hardwood	26	17	43
Coast Live Oak	Mixed Hardwood	9	6	15
Valley Oak	Mixed Hardwood	0	25.000	25.000
Red & Arroyo Willow	Mixed Hardwood	0	31	31

[19] Unknown trees are classified as “Miscellaneous” in CalEEMod

Table A. 10: Proposed Tree Count, Phase 2

TREE SPECIES	BROAD SPECIES CLASS	NUMBER OF STREET TREES	NUMBER OF PARK TREES	TOTAL NUMBER OF TREES
London Plane	Mixed Hardwood	68	0	68
White Alder	Mixed Hardwood	17	13	30
Poplar	Mixed Hardwood	17	8	25
Fremont Cottonwood	Mixed Hardwood	14	20	34
California Sycamore	Mixed Hardwood	41	8	49
Coast Live Oak	Mixed Hardwood	14	3	17
Valley Oak	Mixed Hardwood	0	13	13
Red & Arroyo Willow	Mixed Hardwood	0	15	15

Table A. 11: Proposed Tree Count, Phase 3

TREE SPECIES	BROAD SPECIES CLASS	NUMBER OF STREET TREES	NUMBER OF PARK TREES	TOTAL NUMBER OF TREES
London Plane	Mixed Hardwood	84	0	84
White Alder	Mixed Hardwood	21	10	31
Poplar	Mixed Hardwood	21	7	28
Fremont Cottonwood	Mixed Hardwood	17	16	33
California Sycamore	Mixed Hardwood	50	7	57
Coast Live Oak	Mixed Hardwood	17	2	19
Valley Oak	Mixed Hardwood	0	10	10
Red & Arroyo Willow	Mixed Hardwood	0	13	13

Appendix D

Letter to Rosalynn Hughey, Director, Department of Planning, Building, and Code Enforcement

Google LLC
1600 Amphitheatre
Parkway
Mountain View, CA 94043

650-253-0000 main
Google.com

August 22, 2019

Rosalynn Hughey
Director, Department of Planning, Building, and Code Enforcement
City of San Jose
200 E. Santa Clara Street
San Jose, CA 95113

Re: Downtown West Mixed Use Plan
AB 900 Application for Certification as an Environmental Leadership Development Project and Acknowledgement of Obligations under Public Resources Code §21183(e)(f) & (g)

Dear Ms. Hughey:

Google LLC (Applicant) will be submitting an application to the Governor's Office of Planning and Research as well as the California Air Resources Board for certification of the Downtown West Mixed Use Plan as an Environmental Leadership Development Project subject to streamlined review by the judiciary under the Jobs and Economic Improvement through Environmental Leadership Act of 2011 (Act), as amended.

By this letter, the Applicant acknowledges and agrees to its obligations under Public Resources Code Sections 21183(e), (f), and (g), as follows:

> The Applicant agrees that all mitigation measures required pursuant to the California Environmental Quality Act (CEQA) to certify the project under the Act shall be made conditions of approval, that these conditions will be fully enforceable by the City of San Jose Department of Planning, Building, and Code Enforcement or other agency designated by the City, and that all environmental mitigation measures will be monitored and enforced by the City for the life of the obligation. (Public Resources Code section 21183(e).)
>
> The Applicant agrees to pay the costs of the Court of Appeal in hearing and deciding any case, including payment of the costs for the appointment of a special master if deemed appropriate by the court, in a form and manner specified by the Judicial Council, as provided in the Rules of Court adopted by the Judicial Council pursuant to the Act. (Public Resources Code section 21183(f).)
>
> The Applicant agrees to pay the costs of preparing the record of proceedings for the project concurrent with review and consideration of the project pursuant to CEQA, in a form and manner specified by the Department of Planning, Building, and Code Enforcement or other City agency. (Public Resources Code section 21183(g).)

Please return a counter-signed letter to Google LLC, at the address above or electronically to Alexa Arena at arena@google.com. Thank you in advance.

Very truly yours,

Google LLC,
a Delaware limited liability company

By: _____
Alexa Arena
Director, Real Estate District Development
Google LLC

Acknowledged and agreed.

_____
Rosalynn Hughey
Director, Department of Planning, Building, and Code Enforcement
City of San Jose