Vehicle Miles Traveled Analysis

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APPENDIX

Hexagon Transportation Consultants, Inc.

Technical Memorandum

Date: December 8, 2023

To: Mr. Ron Sissem, EMC Planning Group

From: Ollie Zhou

Subject: Vehicle Miles Traveled Analysis for the Proposed Vista Lucia Annexation in Gonzales, California

Hexagon Transportation Consultants, Inc. has completed a Vehicle Miles Traveled (VMT) analysis for the proposed Vista Lucia annexation in Gonzales, California (see Figure 1). The proposed project parcels are located within the City's Sphere of Influence (SOI), but outside of the City limits. The project proposes 3,498 dwelling units and up to 96,000 s.f. of neighborhood commercial land use (see Figure 2). The project site is currently mostly agriculture land.

The purpose of this traffic analysis is to estimate the potential impacts to the transportation system of the proposed annexation into the City limits. The traffic analysis will be included as part of the Vista Lucia Specific Plan Environmental Impact Report.

Existing Transportation System

Freeway

US Route 101 is a north-south U.S. highway that runs through the City of Gonzales. This freeway provides interregional travel for motorists commuting to destinations in the Salinas Valley, Monterey County, and Santa Clara County. Through the City of Gonzales, the connections to the local street system are all grade separated at North Alta Street, 5th Street and Gloria Road-South Alta Street.

Arterials

The function of arterial roadways is to accommodate intra-city circulation. These streets are used to travel to major activity centers, facilitate freeway access, and connect to collectors. They also serve adjacent residential land uses via arterial and collector connections. The City is served by the following three major arterials:

Alta Street (Old US-101) is an existing north-south, two-lane arterial that runs through Gonzales parallel to the Union Pacific Railroad. Many industrial facilities are located along Alta Street. There is substantial shoulder parking capacity along the roadway within Gonzales and trucks frequently use the shoulder for parking. The posted speed limit is 25-45 mph. Alta Street separates the Gonzales Industrial Park from the residential areas of the city and downtown. At its northern and southern extents, it also provides access to US-101.
5th Street is an existing east-west, two-lane arterial that extends from Alta Street, across US 101, and into the east side of Gonzales. Many schools and residential areas are located along 5th Street. Bike lanes are provided on both sides of 5th Street. The posted speed limit along 5th Street is 25 mph. The street changes name to Johnson Canyon Road east of its intersection with Fanoe Road/Herold Parkway.

Fanoe Rd/Herold Pkwy is an existing north-south, two-lane arterial that runs through Gonzales parallel to and east of US 101. Residential, farm land, and commercial areas are located along Fanoe Rd/Herold Pkwy. The posted speed limit is 25 mph.

Pedestrian Facilities

Sidewalks exist along 5th Street, Alta Street, and Herold Parkway. The sidewalk network has connectivity to the residential areas east of US-101 and to the schools, residential and commercial areas west of US-101.

Bicycle Facilities

Alta Street, 5th Street and Herold Parkway have Class II bike lanes in both directions. The existing bike network provides connections south on Herold Parkway and west on 5th Street via Class II facilities.

Transit Facilities

Monterey-Salinas Transit operates two regional bus lines, 23 and 86 in Gonzales. Line 23 provides a regional connection within the Salinas Valley, running from San Lucas, CA to Salinas, CA. Line 86 provides express regional connection between Monterey County and San Jose, CA, running from King City, CA to San Jose, CA. The General Plan classifies 5th Street as a "transit boulevard", where future transit facility improvements (i.e. covered bus shelters, dedicated lane and dedicated loading/unloading areas) will be prioritized. However, no specific improvement plans are known at this time.

Vehicle Miles Traveled

Historically, transportation analysis has utilized delay and congestion on the roadway system as the primary metric for the identification of traffic impacts and potential roadway improvements to relieve traffic congestion that may result due to proposed/planned growth. However, the State of California has recognized the limitations of measuring and mitigating only vehicle delay at intersections and in 2013 passed Senate Bill (SB) 743, which requires jurisdictions to stop using congestion and delay metrics, such as Level of Service (LOS), as the measurement for CEQA transportation analysis. With the adoption of SB 743 legislation, public agencies are now required to base the determination of transportation impacts on Vehicle Miles Traveled (VMT) rather than level of service. The intent of this change is to shift the focus of transportation analysis under CEQA from vehicle delay and roadway auto capacity to a reduction in vehicle emissions, and the creation of robust multimodal networks that support integrated land uses.

VMT is generally defined as the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT is calculated for residential, office, and industrial projects using the Origin-Destination VMT method, which measures the full distance of personal motorized vehicle-trips with one end within the project. When assessing a residential project, the project's VMT is divided by the number of residents expected to occupy the project to determine the VMT per capita.

Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district with high density and diversity of complementary land uses and frequent transit

services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a rural area with low density of residential developments and no transit service in the project vicinity.

Travel Demand Model

For non-residential or non-office projects, very large projects, or projects that can potentially shift travel patterns, a Travel Demand Forecasting (TDF) model can be used to project VMT. Given the large scale of the proposed project, the Association of Monterey Bay Area Governments (AMBAG) Tri-County transportation model was utilized to complete the VMT evaluation for the proposed project. TDF models have the ability to estimate the diversion of traffic and change in traffic patterns due to roadway/transit system changes as well as large land use changes similar to those proposed by the project.

The model is a mathematical representation of travel within the three counties in the Monterey Bay Region and is mainly composed of four components: 1) trip generation, 2) trip distribution, 3) mode choice, and 4) trip assignment. The model uses socioeconomic inputs (i.e. households, number of jobs, hotel rooms) to estimate travel within Monterey County, Santa Cruz County and San Benito County. Socioeconomic inputs are aggregated into geographic areas (transportation analysis zones). There are 1,710 traffic analysis zones within the model to represent the three counties. Gonzales SOI area is represented by 17 traffic analysis zones.

VMT Analysis Methodology

Pursuant to SB 743, the OPR published the finalized *Updates to the CEQA Guidelines* in November 2017. The guidelines stated that Level of Service will no longer be considered an environmental impact under CEQA and considers vehicle-miles-travelled (VMT) the most appropriate measure of transportation impact. The following VMT impact thresholds and screening criteria from the City of Gonzales VMT Policy are relevant to this project.

Residential VMT Impact Threshold

A residential project would generate a potentially significant VMT impact if the project's residential VMT per capita is above the City's threshold of 15% below existing city-wide average VMT per capita. As shown in Table 1 below, using the latest AMBAG model, the existing city-wide average VMT per capita is 16.7. Therefore, the City's residential VMT threshold is set at 14.2 (85% x 16.7).

Local Serving Retail

Per the City's VMT policy, local-serving retail has been determined to reduce VMT by shortening trips that will occur out of necessity. Local-serving retail is presumed to cause a less-than-significant VMT impact if:

- No single store on-site exceed 50,000 square feet, and
- Project is local-serving as determined by the City of Gonzales

VMT Evaluation

The proposed project's land uses were added onto the existing conditions land uses in the AMBAG model to form an "existing plus project" scenario. A total of 3,498 residential units and 15,391 population, as well as 175 retail employees were added to the traffic analysis zone that geographically represented the project (TAZ 1440).

Residential VMT

Under the existing plus project scenario, the proposed project's residential component would generate on average 15.7 VMT per capita (Table 1). This would exceed the City's residential VMT impact threshold of 14.2, and would represent a potential significant VMT impact. Potential mitigation would require the project to reduce its VMT by 9.6% (1-14.2/15.7 = 9.6%).

Table 1
Residential VMT

	Residential [2]		
Vista Lucia VMT Analysis	**VMT [1]**	**Population**	**VMT per Capita**
Existing Conditions	130,019	7,791	16.7
Potential Impact Threshold [3]			**14.2**
Vista Lucia VMT	241,639	15,391	15.7
VMT Exceed Potential Threshold?			Yes

Notes:
1. VMT data were calculated using the latest AMBAG model. VMT for each analysis area includes all trips starting from or ending within the analysis area.
2. Residential VMT included Home-Based Production VMT.
3. Potential impact threshold followed Gonzales' VMT Policy of 15% below citywide average.

The City's VMT policy identifies various VMT reduction measures as well as their maximum effectiveness. The following measures could feasibly be implemented by the proposed project:

- Transit Rerouting. Since the Vista Lucia project would considerably increase the population within Gonzales, it is reasonable to assume that the Monterey-Salinas Transit (MST) could be open to rerouting regional bus lines, 23 and 86, to have a bus stop closer to the project site. Currently, the buses stop along 5th Avenue outside of a typical 10-minute walking distance. Rerouting the buses to stop in Gonzales within walking distance of the proposed project would encourage future residents that could be served by the bus lines to consider taking transit instead of driving. However, since neither the project applicant nor the City has control over the transit routes, this VMT reduction measure cannot be guaranteed.

- Transit Stops. Similar to the discussion above, adding a second bus stop near the project site could also encourage residents to take transit instead of driving. However, since neither the project applicant nor the City has control over the transit stops, this VMT reduction measure cannot be guaranteed.

- Safe and Well-Lit Access to Transit. The project applicant could work with City staff to provide funding for or implement enhancements to the biking and walking routes to the City's bus stops. The City's VMT policy also states that along with this measure, Emergency 911 phones should be provided along these routes to enhance safety.

- Implement/Improve On-Street Bicycle Facility. The project applicant could work with City staff to provide funding for or implement on-street bicycle facilities connecting the project site to the rest of the City. Currently, bicycle facilities are lacking along Fanoe Road.

- Bicycle Repair Station. The project applicant could install bicycle repair tools and spaces on site for residents. This would support their on-going use of bicycles as a means of transportation.

While the City's VMT calculator is not suitable for calculating VMT for this project (the project is too large for its designed use), Hexagon used the tool to estimate the potential effectiveness of the above mentioned VMT reduction measures. Assuming the project applicant is able to implement all identified VMT reduction measures, the project's VMT would only be reduced by 5.2%. It should be noted that without the measures to reroute and add transit stops, the project's VMT reduction would be lowered to only approximately 2%. These two measures cannot be guaranteed by either the project applicant or the City since neither has control over the transit facilities.

Therefore, the project's significant residential VMT impact would not be feasibly eliminated. There is a very limited set of mitigation measures available for residential projects. The project site is also located outside of a reasonable walking distance from any complementary land uses. Gonzales also has limited alternative modes of transportation and supporting employment land uses. Therefore, the proposed project's residential VMT impact would remain significant and unavoidable.

Retail VMT

As discussed above, the City's VMT policy presumes local-serving retail to generate a less-than-significant VMT impact. While the project proposes up to 96,000 s.f. of neighborhood commercial, no single store would exceed 50,000 s.f. Furthermore, City staff has indicated that the planned retail would be local-serving in nature. As a result, the project's retail component would be presumed to generate a less-than-significant VMT impact.

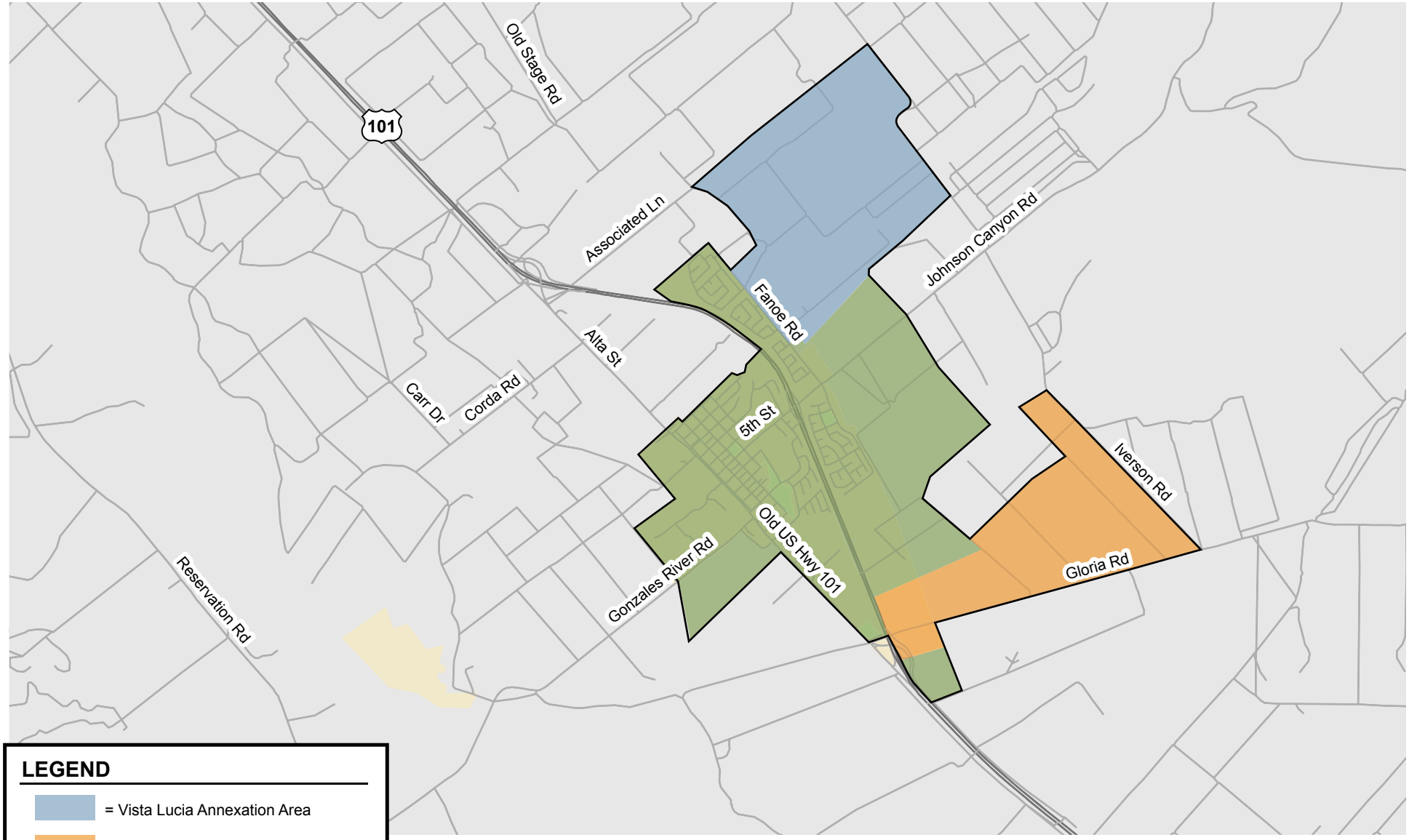

Figure 1
Project Location and Gonzales SOI Area

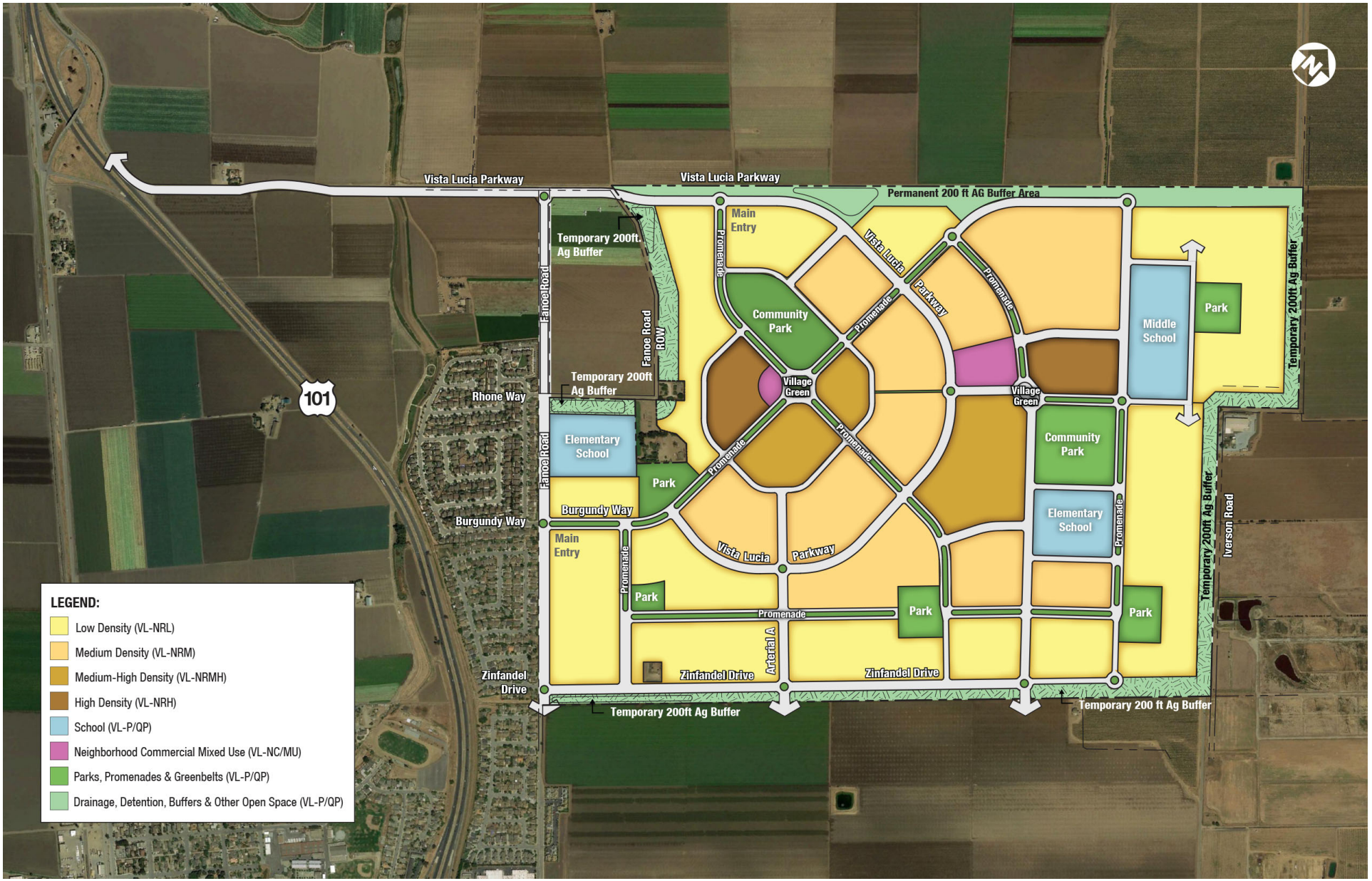

Figure 2
The Vista Lucia Project Plan