

Appendix F – Traffic Impact Analysis for the

547 Airport Boulevard Project

21 Townhomes at the Existing Monterey Bar Rebar Inc. Site

547 Airport Boulevard
City of Watsonville
August 2020



Prepared by: W-Trans, Oakland, CA.



April 21, 2020

Mr. Bill Spain
MIG, Inc.
800 Hearst Avenue
Berkeley, CA 94710

Focused Traffic Analysis for the 547 Airport Boulevard Project

Dear Mr. Spain;

As requested, W-Trans has prepared a focused traffic study for the proposed residential project at 547 Airport Boulevard in the City of Watsonville. The purpose of this letter is to present the information used in evaluating the project's potential impacts on traffic operation together with our findings and recommendations. The scope of work for this analysis was reviewed and approved by City staff.

Project Description

The proposed project includes the construction of 21 row-style, two-story, three-bedroom townhomes at 547 Airport Boulevard in the City of Watsonville. Access to the site would be via a private driveway off Airport Boulevard, approximately 250 feet east of the intersection of Airport Boulevard/Hangar Way.

Collision History

The collision history for the segment of Airport Boulevard between State Route (SR) 1 and Freedom Boulevard was reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The five-year period used for analysis was August 1, 2013 through July 31, 2018. The calculated collision rate for the study segment was compared to average collision rates for similar facilities statewide, as indicated in *2016 Collision Data on California State Highways*, California Department of Transportation (Caltrans).

The study segment of Airport Boulevard between SR 1 and Freedom Boulevard had ten reported crashes during the five-year study period, resulting in a collision rate of 0.19 collisions per million vehicle miles (c/mvm), which is less than the statewide average for similar facilities of 3.73 c/mvm. The collision rate calculation is enclosed.

Transportation Setting

Vehicular Circulation

The proposed project's frontage is on Airport Boulevard between the intersections of Hangar Way and Aviation Way. Airport Boulevard generally runs in a northeast-southwest direction, though along the frontage the roadway is east-west. There are two lanes in each direction separated by a two-way left-turn lane. Based on counts taken on between January 29 and February 1, 2020, Airport Boulevard experiences an average volume of 19,600 vehicles a day. The street is classified as a principle arterial per the Caltrans California Road System Maps. Per functional street classification in the City of Watsonville General Plan (2005), Airport Boulevard is classified as a major arterial.

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, and curb ramps provide access for pedestrians on both sides of Airport Boulevard; however, there are currently no sidewalks along the project frontage. The closest crosswalk across Airport Boulevard is approximately 0.20 miles northeast of the project site at the intersection of Airport Boulevard/Holm Road. At this crossing, there is an existing rectangular rapid flash beacon (RRFB).

Bicycle Facilities

The *Highway Design Manual*, Caltrans, 2017, classifies bikeways into four categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- **Class IV Bikeway** – also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

In the study area, there are existing bicycle lanes along Airport Boulevard for approximately 2.0 miles between Larkin Valley Road and Green Valley Road. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area.

Transit Facilities

Santa Cruz Metro provides regional service throughout the County of Santa Cruz and within the City of Watsonville. There are four stops within one-quarter mile of the project site, serving Routes 69A and 74S. Route 69A provides service between Santa Cruz Metro Center and the Watsonville Transit Center, with stops at Hangar Way/Airport Boulevard and Holm Road/Airport Boulevard. Service operates Monday through Friday with approximately 30-minute headways between 6:20 a.m. and 10:50 p.m. Saturday and Sunday service operates with 30-minute headways between 7:50 a.m. and 8:10 p.m. Route 74S provides loop service between the Watsonville Transit Center and the Watsonville Community Hospital, with stops at multiple public schools within the City. Service is provided Monday through Friday with one trip between 7:00 a.m. and 8:00 a.m. and another between 3:00 p.m. and 4:00 p.m.

Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017 for Multifamily Housing Low-Rise (Land Use #220), as this description most closely matches the proposed project. Because the site is currently occupied by Monterey Bay Rebar Inc., the trip generation of the rebar shop was considered. "Manufacturing" rates (Land Use #140) were applied to the existing rebar shop. It is noted that at the time of the traffic counts there were mobile homes on site and a house that was occupied. While trips associated with these uses were not deducted to estimate the "net new" expected trip generation, these uses would cease to generate trips with the completion of the project, making the anticipated average net new trip generation for the site slightly less than used in this analysis.

The proposed project is expected to generate an average of 154 trips per day, including ten trips during the a.m. peak hour and 12 during the p.m. peak hour. After deductions are taken into account for the existing uses, the project would be expected to generate 99 net new trips on a daily basis, including three during the morning peak hour and five during the evening peak hour; these new trips represent the increase in traffic associated with the project compared to existing traffic volumes. The trip generation estimate is summarized in Table 1.

Table 1 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Existing											
Manufacturing	-1.57 acre	35.02	-55	4.62	-7	-7	0	4.54	-7	-3	-4
Proposed											
Multifamily Housing (Low-Rise)	21 du	7.32	154	0.46	10	2	8	0.56	12	7	5
Total			99		3	-5	8		5	4	1

Note: du = dwelling unit

Consideration was given to the need to prepare a VMT (vehicle miles traveled) analysis for the proposed project. Based on the Governor's Office of Planning and Research (OPR) publication *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), the screening threshold for small projects indicates that projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. Given that the anticipated number of net new daily trips that would be generated by the proposed project is less than 110, the project would be expected to have a less-than-significant impact on VMT.

Trip Distribution

The pattern used to allocate new project trips to the street network was determined by reviewing adjacent complementary uses in the greater study area. Since the site would be accessible only via Airport Boulevard, it was assumed that 40 percent of the trips would travel to and from the east and 60 percent to and from the west via Airport Boulevard.

Access Analysis

The site would be accessible via a full access driveway on Airport Boulevard. Along the project frontage there is a two-way left-turn lane for inbound and outbound drivers to use.

Queuing

Based on the number of peak-hour trips the project is expected to generate, and the length of the existing two-way left turn along the frontage of the project site, it is anticipated that stacking storage capacity will not be an issue for proposed project.

Finding – The existing stacking storage capacity is expected to accommodate the queue length for the westbound left turn into the project site.

Sight Distance

Sight distance along Airport Boulevard at the project driveway was evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distance for a driveway is based on stopping sight distance, with the approach travel speed used as the basis for determining the recommended sight distance.

For the posted 45-mph speed limit on Airport Boulevard, the recommended stopping sight distance is 360 feet. Based on a review of field conditions, sight lines at the project driveway extend more than 400 feet in each direction, which would be adequate for the posted speed limit. To maintain adequate sight lines, it is recommended that any landscaping at the driveway be low-lying vegetation or trees that are trimmed of all branches hanging below seven feet from the road elevation. It is further recommended that no signing be installed that would obscure sight lines.

Finding – Adequate stopping sight distance would be available to accommodate turns out of the project site.

Recommendation – To maintain adequate sight lines, it is recommended that landscaping be maintained, and any signage associated with the project be placed outside the driver's vision triangle.

Non-Auto Modes

Pedestrian Facilities

The proposed site plan identifies sidewalks within the project, connecting the residences to each other. However, the site plan does not identify sidewalk improvements along the project frontage, and such improvements would be required to meet City design standards. It is recommended that the site plan be modified to include sidewalk on the project's frontage to close the existing gap in sidewalk connectivity on Airport Boulevard.

Finding – The internal proposed pedestrian connections for the site would be adequate; however, the external pedestrian facilities are inadequate.

Recommendation – Sidewalk should be constructed along the site frontage as part of the proposed project to close the existing sidewalk gap on Airport Boulevard and enable better pedestrian access.

Bicycle Facilities

Existing bicycle facilities along Airport Boulevard are adequate to connect the project site to nearby residential and commercial areas.

Finding – Bicycle facilities serving the project site are adequate for anticipated demand.

Transit

Existing transit routes are adequate to accommodate project-generated transit trips. Existing bus stops are within an acceptable walking distance of the site and would be accessible via the current sidewalk facilities nearby upon completion of the frontage improvements noted as being necessary for adequate pedestrian access.

Finding – Transit facilities serving the project site are adequate.

Parking

As proposed, each unit would have a one-car garage with an additional parking space provided in the driveway. Further, the shared parking supply would include 16 spaces resulting in a total of 58 parking spaces.

The project was analyzed to determine whether the proposed parking supply would be sufficient to satisfy City requirements. The City of Watsonville Municipal Code, Title 14-17; Parking and Loading Facilities, stipulates that for each three-bedroom unit, two parking spaces should be provided. The City also stipulates that guest parking shall be provided at a ratio of one space per four bedrooms. For 21 three-bedroom units, the total number of visitor parking spaces required is 16 spaces resulting a total parking requirement of 58 spaces. The proposed parking supply of 58 spaces meets the City's requirement, as summarized in Table 2.

Table 2 – Parking Analysis Summary

Land Use	Units	Supply (spaces)	City Requirements	
			Rate	Spaces Required
3-bdr Apartments	21 du (63 bdr)	21 covered sp 21 tandem sp 16 visitor sp	1.0 covered sp/unit 1.0 tandem sp/unit 1.0 visitor sp/4 bdr	21 covered sp 21 tandem sp 16 visitor sp
Total		58		58

Notes: du = dwelling unit; bdr = bedrooms; sp = space

Further, it should be noted that the City of Watsonville has special requirements for multifamily developments as detailed in the City of Watsonville Residential Development Standards, Multifamily Condominium & Townhouse Projects (1987). Per the Standards, the project shall provide a minimum of two car enclosed garage spaces per dwelling unit. The applicant has included a request for Planned Development, which would allow a modification from the standard to allow one single car enclosed garage space per dwelling unit and the permitted use of the driveway in front of the garage to satisfy the second parking space requirement.

Finding – The proposed parking supply for the project would be adequate to meet the City's parking requirements, and the applicant's request for a Planned Development would allow the project to meet the Multifamily Condominium & Townhouse Projects Standards.

Bicycle Storage

The City of Watsonville General Plan (2005) Policy 10.K stipulates that the City shall implement a comprehensive network of bicycle facilities to promote the bicycle as an alternative to the private automobile. However, according to the City Municipal Code 14-17.113, residential areas are exempt from bicycle parking requirements. The applicant should consider providing bicycle parking at a rate of five percent of automobile parking supply, which is consistent with the bicycle parking requirements for other land uses in the City.

Finding – Although the proposed project's bicycle parking supply is adequate, it could be improved by providing facilities for securing bicycles in a common area.

Recommendation – The proposed project should provide bicycle parking facilities. Based on the City Municipal Code requirement of five percent of the automobile parking supply for other land uses, three bicycle parking spaces are suggested.

Conclusions and Recommendations

- The proposed project is expected to generate an average of 99 new vehicle trips daily, including three trips during the weekday morning peak hour and five trips during the weekday evening peak hour.
- The two-way left-turn lane along the project site frontage is anticipated to be adequate to accommodate the change in vehicle queue lengths due to the addition of project-generated traffic.
- The proposed project should include installation of sidewalk along the project frontage on Airport Boulevard.
- Bicycle and transit facilities are adequate to serve the project site.
- Site access is expected to operate acceptably.
- Any landscaping at the project driveway should consist of low-profile shrubs not exceeding three feet in height at maturity or trees with branches trimmed to a minimum of seven feet above the roadway surface.
- The proposed parking supply satisfies City requirements; however, to support increased use of bicycles for transportation it is recommended that parking to secure three bicycles be provided.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,



Allison Woodworth, EIT
Assistant Engineer



Briana Byrne, EIT
Associate Engineer



Mark Spencer, PE
Senior Principal



MES/bkb/akw/WAT003.L1

Enclosures: Collision Rate Spreadsheet

SEGMENT COLLISION RATE CALCULATIONS

547 Airport Blvd Project

Location: Airport Blvd between SR 1 and Freedom Blvd

Date of Count: Wednesday, January 29, 2020

ADT: 19,600

Number of Collisions: 10

Number of Injuries: 2

Number of Fatalities: 0

Start Date: August 1, 2013

End Date: July 31, 2018

Number of Years: 5

Highway Type: Undivided 5-6 lanes

Area: Urban

Design Speed: ≤45

Segment Length: 1.5 miles

Direction: North/South

Number of Collisions x 1 Million

ADT x 365 Days per Year x Segment Length x Number of Years

$$\frac{10 \times 1,000,000}{19,600 \times 365 \times 1.5 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Segment	0.19 c/mvm	0.0%	20.0%
Statewide Average*	3.73 c/mvm	1.0%	14.3%

ADT = average daily traffic volume

c/mvm = collisions per million vehicle miles

* 2016 Collision Data on California State Highways, Caltrans