

APPENDIX C
GARDEN APARTMENTS TRANSPORTATION ANALYSIS

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From: Derek Rapp, TE 
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File: 185704066

Date: April 19, 2018

Reference: Garden Apartments, Humboldt County - Transportation Analysis

1.0 INTRODUCTION AND PROJECT DESCRIPTION

1.1 INTRODUCTION

The following transportation analysis evaluates transportation-related effects of the proposed rezone and construction of a 66 multi-family housing development in the unincorporated Myrtle town area, northeast of the City of Eureka.

A description of the existing transportation conditions in and around the project site, travel demand characteristics of the proposed project, and a comprehensive analysis of the transportation conditions in and around the project site with the proposed project are discussed.

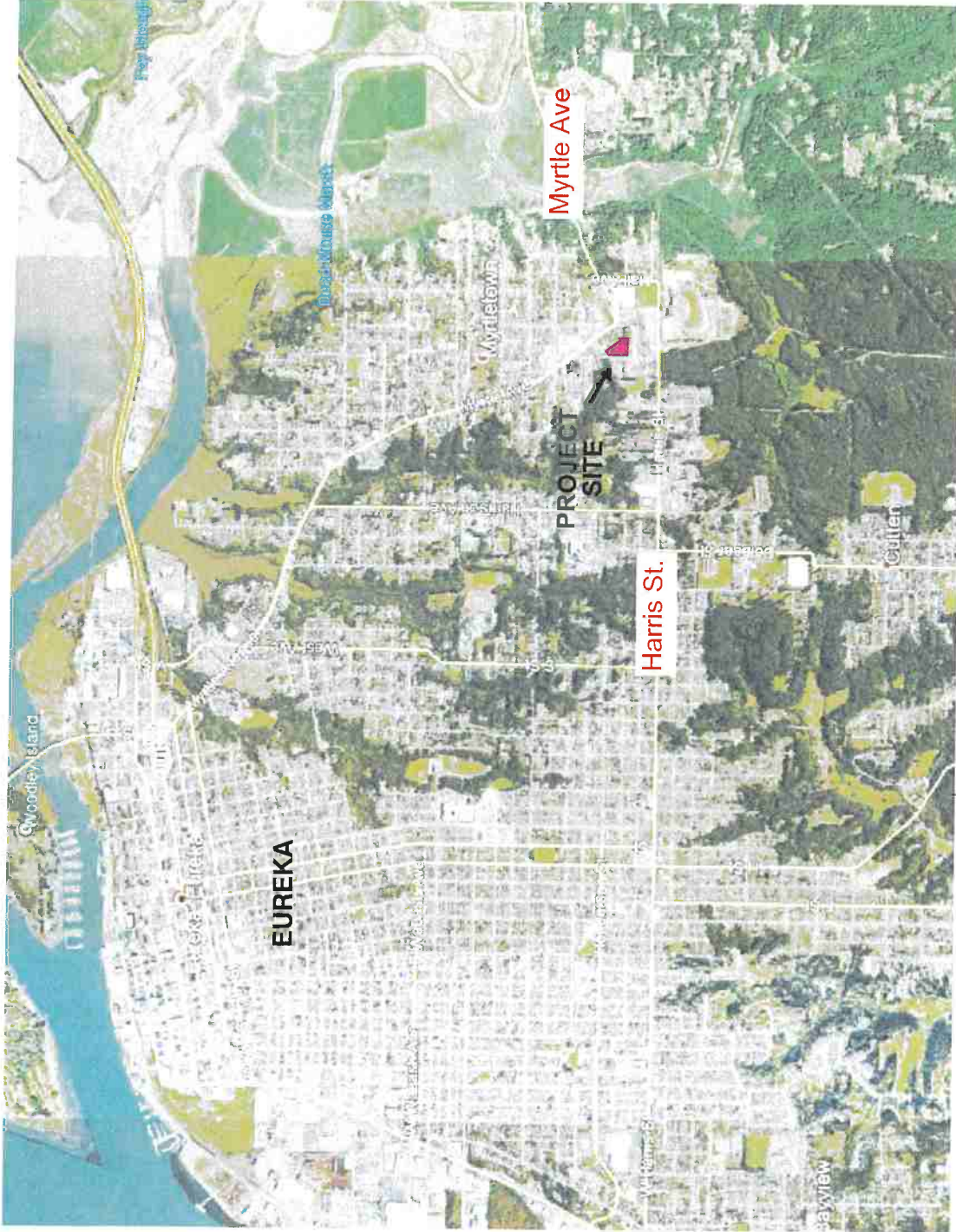
1.2 PROJECT DESCRIPTION

The proposed project is located on the east side of Hubbard Lane and north of Harris Street in the Myrtle town area, northeast of the City of Eureka. Exhibit 1 illustrates the project site location and Exhibit 2 contains the project site plan. The proposed project will consist of the development of a multi-family housing development on 2.2 acres. The project will require the demolition of existing structures to construct the 66 apartment units and community building. The apartment buildings would be comprised of 1 and 2-bedroom units and will include 87 parking spaces.

2.0 EXISTING TRANSPORTATION NETWORK

2.1 ROADWAY NETWORK

As shown in Exhibit 3, the study-area is bounded by Myrtle Avenue to the north, Hubbard Lane to the west and Harris Street to the south. Harris Street is designated as an Urban Principal Arterial and is a major east-west route through the City of Eureka, providing a connection between the project site and U.S. 101 (Redwood Highway). It contains two travel lanes and a median two-way left-turn lane in the project vicinity and the posted speed limit is 35mph. Class II bicycle lanes are provided west of Hubbard Lane and on-street parking is permitted on the south side. Class III bicycle facilities are provided east of Hubbard Lane and are designated as bike route. On-street parking is permitted on both sides. The Harris Street/Hubbard Lane intersection is a three-way intersection controlled by a stop sign on the north leg (Hubbard Lane).



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EXHIBIT 1
PROJECT SITE LOCATION
GARDEN APARTMENTS, HUMBOLDT COUNTY

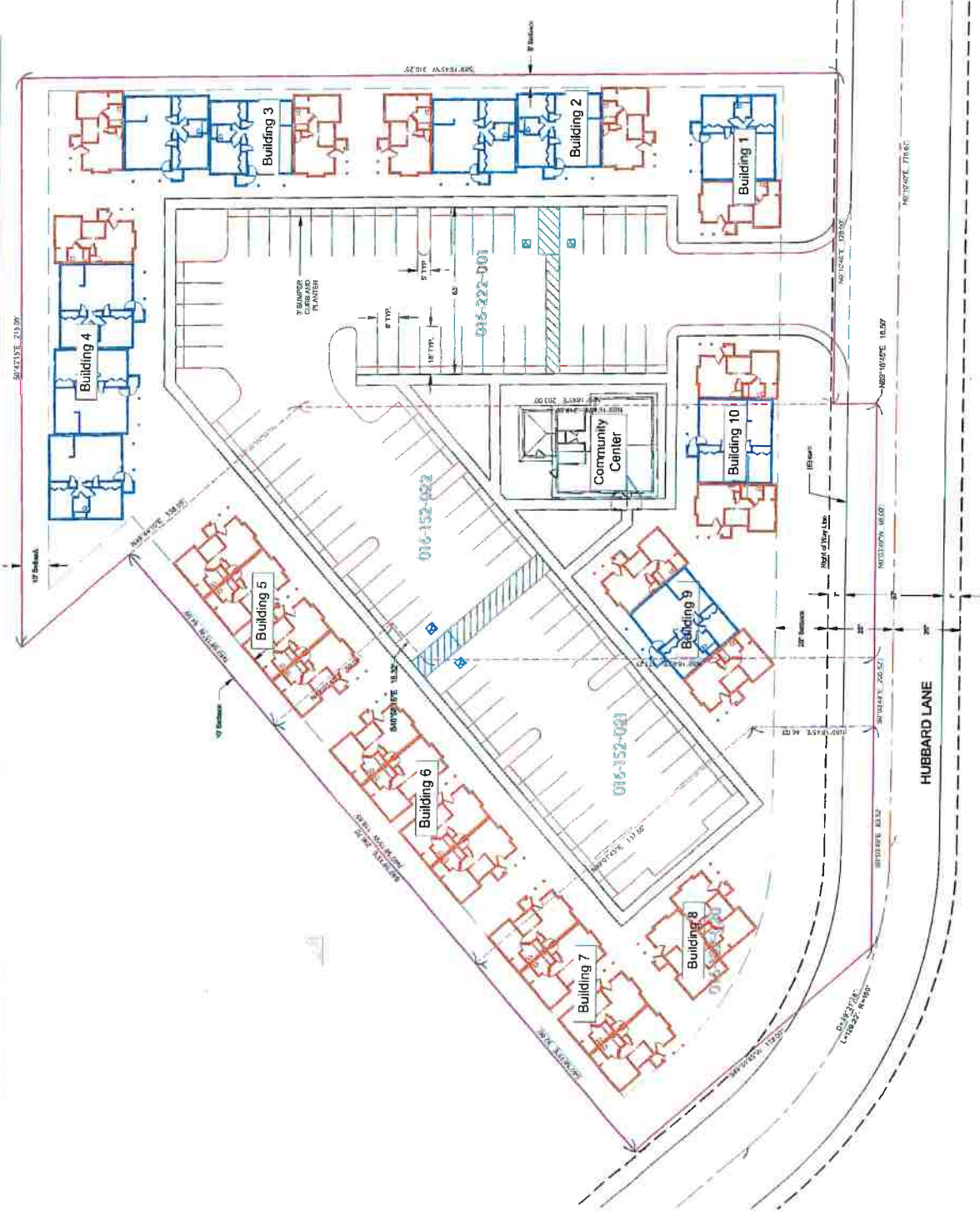
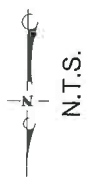


EXHIBIT 2
PROJECT SITE PLAN
 GARDEN APARTMENTS, HUMBOLDT COUNTY



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Myrtle Avenue is designed as an Urban Principal Arterial in the vicinity of the site and as Rural Major Collector east of Myrtle town. It serves as an alternate to U.S. 101 between Arcata and Eureka and provides a connection between the project site and Downtown Eureka. The roadway contains two travel lanes and a median two-way left-turn lane north of Hubbard Lane and two travel lanes south of Hubbard Lane, and the posted speed limit is 35mph. Continuous class II bicycle lanes are provided along the roadway, with on-street parking permitted where shoulders are provided. The Myrtle Avenue/Hubbard Lane intersection is controlled by a traffic signal and left-turn channelization is provided on all approaches.

Hubbard Lane is a north-south two-lane collector roadway that serves the residential, light industrial and institutional uses between Harris Street and Myrtle Avenue. It provides on-street parking on both sides and the posted speed limit is 25 mph. There are two roadway segments; the segment facilitating two-way traffic turns in an easterly direction directly north of the site to the signalized Myrtle Avenue/Hubbard Lane intersection. A separate segment facilitates one-way southbound traffic between Myrtle Avenue and the two-way segment. The resulting intersection, located north of the project site, is controlled by a stop sign on the east leg.

Review of average daily traffic volumes indicates that Harris Street carries 6,800 average daily trips (ADT), Hubbard Lane carries 5,400 ADT and Myrtle Avenue carries between 5,600 and 7,000 ADT (2009 data). Based on the roadway capacity information outlined in the County's *Circulation Element*¹, these volumes are within each roadway's capacity.

2.2 TRANSIT NETWORK








The study-area is serviced by the Eureka Transit Service (ETS) Green Route, which runs a weekday hourly service from 6:50am to 6:45pm. The Green Route service provides a connection to other route destinations as well as to the Redwood Transit System bus stops on the Redwood Highway.

The Green Route runs in a clockwise direction in the vicinity of the project site (refer to exhibit 4). Residents would use either the southbound bus stop on Myrtle Avenue approximately 500' northeast from the site, or the bus stop located on Harris Street & Granada approximately 1,900' southwest from the site. In addition, the Redwood Transit System provides regional commute service between Eureka and North & South County destinations. Bus stops are located along the Redwood Highway, 4th Street and 6th Street.

The Eureka Transit Authority also provides a Dial-A-Ride Service, which is an origin-to-destination shared-ride transportation for individuals who are unable to use public transportation, either all of the time or some of the time, because of a disabling condition. Services are available on a prearranged basis for any trip purpose within the designated service areas.

¹ Chapter 7. Circulation Element, Humboldt County General Plan, Adopted October 23, 2017.

LEGEND

-  - traffic signal
-  - stop sign
-  - intersection lane assignment
-  - crosswalk
-  - travel lane
-  - two-way left-turn lane
-  - Class II Bike Lane

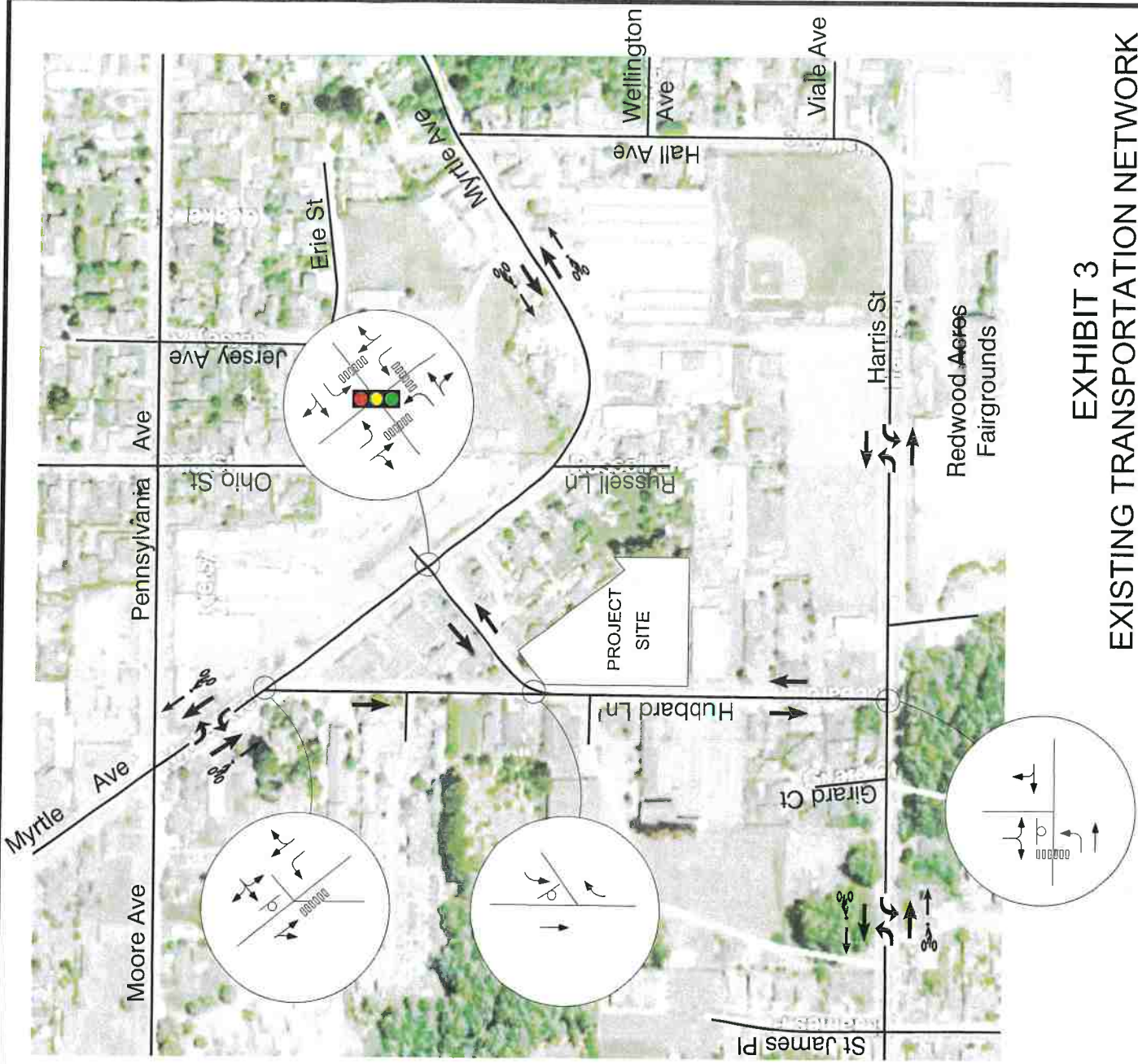
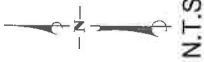


EXHIBIT 3
EXISTING TRANSPORTATION NETWORK
 GARDEN APARTMENTS, HUMBOLDT COUNTY



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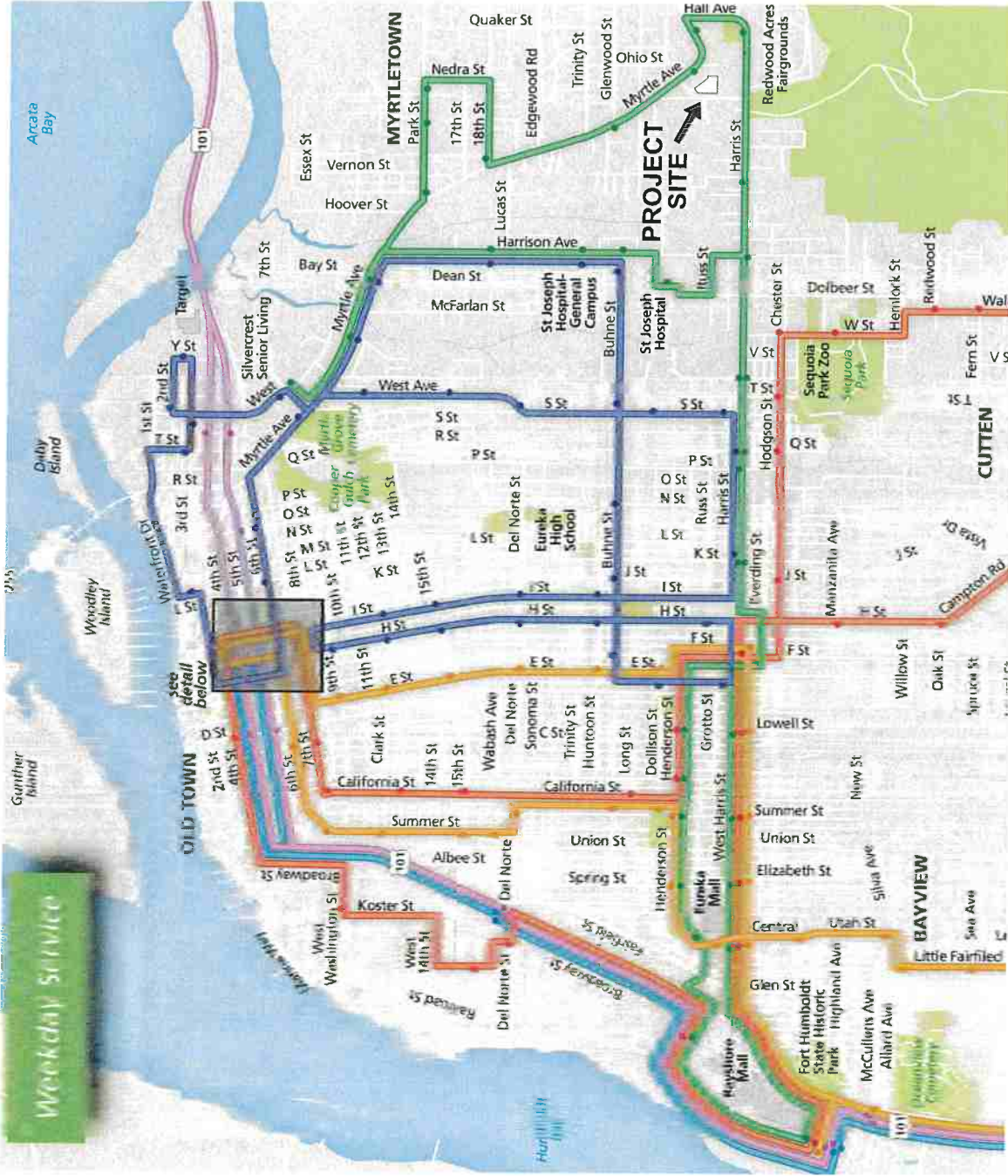


EXHIBIT 4
EXISTING TRANSIT NETWORK
 GARDEN APARTMENTS, HUMBOLDT COUNTY

2.3 BICYCLE NETWORK

In the project vicinity, Class II bicycle facilities, which are painted on-street one-way bicycle lanes adjacent to a vehicle travel lane, are provided on both sides of Harris Street west of Hubbard Lane and on both sides of Myrtle Avenue along its entire length. The Class II facilities are signed and marked appropriately. Class III bicycle facilities, which are signed as Bike Route and provide for shared roadway use with vehicles are provided on both sides of the segment of Harris Street east of Hubbard Lane and Hall Avenue. Bike route signs are installed at the beginning of each Class III facility.

2.4 PEDESTRIAN NETWORK

Pedestrian amenities in the vicinity of the project site include sidewalks, crosswalks, Americans with Disabilities Act (ADA) conforming curb ramps and pedestrian signals. A continuous sidewalk and curb ramps are provided on the north side of Harris Street. A sidewalk and curb ramps have been installed on the south side of Harris Street from Girard Court to Hall Avenue. A continuous sidewalk and curb ramps are also provided on the west side of Myrtle Avenue from north of Moore Avenue to Russell Lane east of the project site. A continuous sidewalk is provided on the west side of Hubbard Lane between Myrtle Avenue and Harris Street. The sidewalk on the east side of Hubbard Lane currently terminates approximately 130' south of the project site boundary, then continues on the north side of the "Y" intersection.

Americans with Disabilities Act (ADA) conforming curb ramps are provided at all the nearby intersections. Crosswalks are installed at the following locations:

- Myrtle Ave/Moore Ave – Pennsylvania Ave intersection (signalized) – yellow school crosswalk markings on east/west side crossing Moore Avenue and Pennsylvania Avenue and north side crossing Myrtle Avenue.
- Myrtle Ave/Hubbard Ln (N) intersection (unsignalized) – west side crossing Hubbard Lane.
- Myrtle Ave/Hubbard Ln (S) intersection (signalized) – east/west side crossing Hubbard Lane and south side crossing Myrtle Avenue.
- Harris St/Hubbard Ln intersection – west side crossing Harris Street.

3.0 PROJECT TRAVEL DEMAND ANALYSIS

3.1 PROJECT TRIP GENERATION

Trip generation estimates were determined for the project based on rates provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual (10th Edition, 2017)* for Multifamily Housing (Low-Rise) in a general urban/suburban setting. The County's transportation mode data² indicates that the mode split in the Myrtle town community includes 90.7% vehicle use (82.5 % single occupancy/8.2% carpool), 2.3% walk, 0.4% use public transit or bike, and 6.6% work at home. Therefore, the estimated vehicle rates in Table 1 and associated vehicle trips in Table 2 are considered slightly conservative.

² Revised Draft Environmental Impact Report, Section 3.5 Transportation, Humboldt County General Plan, April 20, 2017.

**Table 1
Project Trip Generation Rates**

Land Use	Unit	ADT Rate	AM Peak Hour Rate			PM Peak Hour Rate		
			In	Out	Total	In	Out	Total
Multi-Family Housing (Low-Rise)	Dwelling	7.32	0.11	0.35	0.46	0.35	0.21	0.56

ADT = average daily traffic.

**Table 2
Project Trip Generation Estimates**

Land Use	Size	ADT	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Multi-Family Housing (Low-Rise)	66 Units	483	7	23	30	23	14	37

The project is expected to generate a total of 483 average daily trips (ADT), with 30 trips occurring during the AM peak hour and 37 trips occurring during the PM peak hour. The anticipated project trip distribution and project trip additions to the study-area roadway network are illustrated in Exhibit 5.

4.0 PROJECT TRANSPORTATION IMPACT ANALYSIS

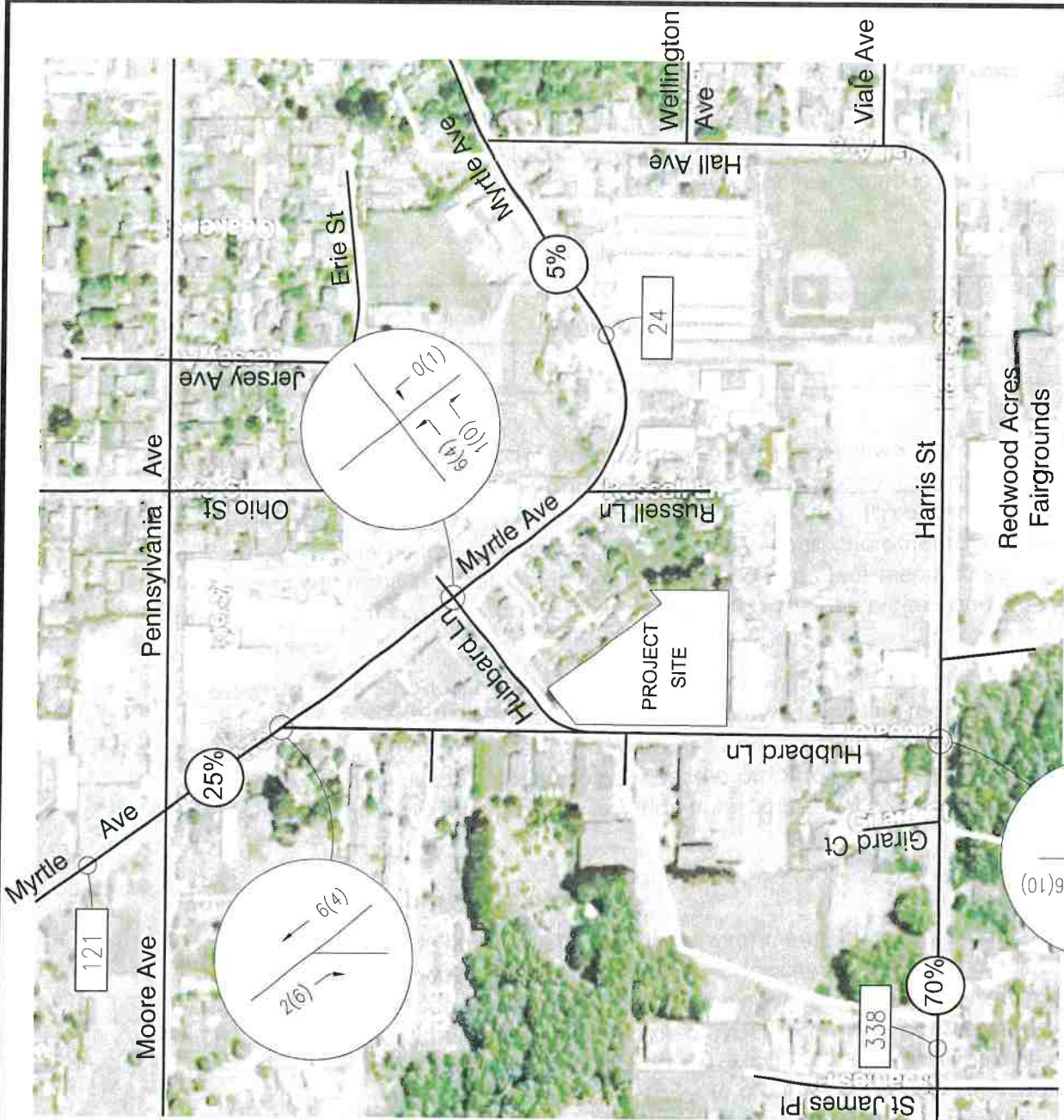
4.1 VEHICLE MILES TRAVELED (VMT)

Public Resources Code Section 21099(b)(1), effective January 1, 2014, requires that the State Office of Planning and Research (OPR) develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." CEQA Section 21099(b)(2) states that upon certification of the revised guidelines for determining transportation impacts pursuant to Section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment under CEQA.

In January 2016, OPR published for public review and comment a Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA recommending that transportation impacts for projects be measured using a vehicle miles traveled (VMT) metric. In anticipation of the future certification of the revised CEQA Guidelines, the County has adopted OPR's recommendation to use the VMT metric instead of automobile delay to evaluate the transportation impacts of projects. (Note: the VMT metric does not apply to the analysis of project impacts on non-automobile modes of travel such as riding transit, walking, and bicycling.)

LEGEND

- XXXX - Average Daily Traffic
- XX(XX) - AM(PM) Peak Hour Volume
- ↑ - Traffic Movement
- 30% - Project Trip Distribution



PROJECT PRIMARY TRIP GENERATION

	In	Out	Total
ADT			483
AM PEAK HOUR	7	23	30
PM PEAK HOUR	23	14	37



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EXHIBIT 5
PROJECT-ADDED TRAFFIC VOLUMES
 GARDEN APARTMENTS, HUMBOLDT COUNTY

vicinity. Based on existing traffic data, the roadway segments and intersections in the vicinity of the project site would continue to operate acceptably. The proposed project does not propose any features that would increase conflicts between vehicles and other modes. Therefore, because the proposed project would not generate a substantial increase in vehicle traffic to and from the site and adjacent streets/intersections, and would not result in any evident traffic hazards related to queuing, blockages, reduction in sight distance, or potential conflicts with other modes, the project would result in a less-than-significant impact to traffic hazards within the study area.

4.3 ALTERNATIVE TRANSPORTATION

As discussed previously, The County's transportation mode data indicates that the mode split in the Myrtle town community includes 2.3% walk and 0.4% use public transit or bike. The proposed project would not substantially affect the capacity utilization of local or regional transit routes resulting in unacceptable levels of transit service; or cause substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result. Therefore, impacts on local and regional transit capacity utilization, transit delays or operating costs would be less than significant.

Class II and Class III bicycle facilities are provided on Harris Street and Myrtle Avenue. The proposed project would not generate a significant number bicycle trips. Therefore, the proposed project would not affect bicycle travel or facilities in the project vicinity or to adjoining areas.

The study-area network provides pedestrian accessibility between the project site and vicinity commercial uses, schools and transit stops, however a sidewalk is currently not provided along the project site to a point approximately 130' south of the site's boundary. The project is expected to generate a limited number of pedestrian trips on a daily basis. While pedestrian impacts would be insignificant, a sidewalk gap closure and installation of ADA curb ramps at the Hubbard Lane "Y" intersection, as part of project frontage improvements, will be required to facilitate pedestrian traffic to and from the site.

4.4 EMERGENCY VEHICLE ACCESS

The Humboldt No. 1 Fire Protection District Headquarters is located on the northeast corner of the Harris Street/Hubbard Lane intersection, approximately 300' south of the project site. Emergency vehicle access to the project site would be provided via the proposed driveway on Hubbard Lane. Our analysis assumes that the Fire Department has reviewed and approved the site plan for its operational needs.

4.5 PARKING

The project consists of 20 2-bedroom units and 46 1-bedroom units. The required parking space supply is 86 spaces (2 spaces per 2-bedroom units and 1 space per 1-bedroom unit). The proposed parking supply of 87 spaces would satisfy the parking requirement. The proposed project would have less-than-significant parking impacts.

5.0 CUMULATIVE IMPACTS

Year 2040 conditions were assessed based on the County's Revised Draft Environmental Impact Report and data provided by County staff. The County's expected total household growth is 2.7%.

with an associated vehicle miles traveled increase of 7.4% from 2010 to 2040. No significant development or infrastructure projects are anticipated in the study-area.

5.1 VEHICLE MILES TRAVELED (VMT)

This section summarizes vehicle miles traveled (VMT) analysis for the cumulative conditions. Refer to Table 4 for regional VMT data and local home based VMT data. The 2040 regional average daily work-related VMT per employee is 28.86 miles.

Table 4
Daily Vehicle Miles Traveled

Land Use	Regional Average	Regional Average minus 15%	TAZ 121
Residential	28.86	24.53	9.54

As discussed previously, a project would have a significant effect on the environment if it would cause substantial additional VMT. The State Office of Planning and Research's (OPR) [Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA](#) ("proposed transportation impact guidelines") recommends screening criteria to identify types, characteristics, or locations of projects that would not result in significant impacts to VMT. If a project meets screening criteria, then it is presumed that VMT impacts would be less than significant for the project and a detailed VMT analysis is not required.

Humboldt County 2040 cumulative conditions were projected based on traffic model run data and includes residential and job growth estimates and reasonably foreseeable transportation investments through 2040. As shown in Table 4, the projected 2040 average daily home based VMT for TAZ 121 is 9.54 miles. This is well below the projected 2040 regional average daily VMT of 28.86 miles.

Given the project site is located in an area where VMT is greater than 15 percent below the projected 2040 regional average per office employee, the proposed project would not result in substantial additional VMT. Therefore, the proposed project would not contribute considerably to any substantial cumulative increase in VMT, and the cumulative impacts would be less-than-significant.

5.2 CUMULATIVE TRAFFIC HAZARDS

Background growth in automobile traffic would increase between project-specific and Cumulative conditions. However, the projected growth rate of a maximum of 7.4% would not result in exceedance of LOS "C" conditions, the County's minimum roadway and intersection standard, indicating that traffic volumes will remain acceptable and therefore, the proposed project would bring in less-than-significant cumulative traffic hazards impacts.

6.0 RECOMMENDED IMPROVEMENT MEASURES

The proposed project is not expected to result in any significant project-specific or cumulative impacts to the study-area transportation and circulation system. The project would induce the need to construct the missing sidewalk segment from the current sidewalk terminus approximately 130' south of the project boundary to the Hubbard Lane "Y" intersection directly north of the project site. In

addition, ADA curb ramps will need to be constructed on the north and south side of the intersection, and a crosswalk and installed on the north leg (stopped approach). This improvement would aid in further reducing less-than-significant impacts to pedestrian circulation.