City of Hercules
Circulation Element Update

Initial Study and Negative Declaration

October 19, 2017

Prepared for:

City of Hercules
111 Civic Avenue
Hercules, California 94547

Prepared by:

MIG
800 Hearst Avenue
Berkeley, CA 94710

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1. INTRODUCTION

1.1 REPORT PURPOSE

This Initial Study and Negative Declaration has been prepared by the City of Hercules (the "Lead Agency"[1]) pursuant to all relevant sections of the California Environmental Quality Act (CEQA). The report is intended to inform City of Hercules (City) decision-makers, responsible agencies, and the general public of the environmental consequences of the proposed General Plan Circulation Element Update. This report is also intended to provide the CEQA-required environmental documentation for all City approvals required to adopt the Circulation Element.

The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA.

1.2 PROJECT DESCRIPTION

The project consists of an update to the City of Hercules General Plan Circulation Element ("Circulation Element Update"), which addresses future transportation and circulation needs for the City. The project updates City transportation goals, policies, and action programs in order to enhance circulation infrastructure, improve safety for all modes of travel, and incorporate near-term and long-term improvements to address connectivity, access, and mobility needs.

1.2.1 Project Location

Hercules is located within the West County portion of Contra Costa County, along the urbanized shoreline of San Francisco and San Pablo Bays. To the east of the City are the Briones Hills and open space lands. The incorporated City of Pinole is located south of Hercules, and the unincorporated community of Rodeo is located to the north. A regionally significant natural feature is Refugio Creek, which flows from the east, through the central part of Hercules, and into San Pablo Bay north of Hercules Point.

1.2.2 Existing On-Site and Adjacent Area Characteristics

The City of Hercules encompasses about eight square miles. It surrounds the junction of Interstate 80 (I-80), a north-south interstate freeway which bisects the City into eastern and western sides, and State Highway 4 (Hwy 4), an east-west State highway which connects

[1]The CEQA Guidelines define the "Lead Agency" as the public agency that has the principal responsibility for carrying out or approving a project.

Hercules to locations in eastern Contra Costa County, the Central Valley and the Sierra Nevada mountains, and terminates at the junction with I-80 in Hercules. Most of the City's land area is located east of I-80, which runs generally north-south through the city. The City's largest land use type is residential, with the majority of the single-family detached homes east of I-80. Newer higher density housing development has occurred west of I-80, with new residential and commercial projects planned for this area that are in various stages of the approval and construction processes. Commercial uses are mostly community- and neighborhood-serving, and are concentrated along the two east-west running roads of Sycamore Avenue and Willow Avenue near the I-80 Hercules off-ramps. There is a significant amount of vacant commercially designated land located in close proximity to I-80 and Hwy 4. Research and development (R&D) and office uses are primarily located in the northwest portion of the city.

Two railroads operate through Hercules: the Union Pacific Railroad (UPRR) runs north/south along the City's San Pablo Bay frontage, and the Burlington Northern and Santa Fe Railway line runs east/west roughly through the center of the City.

The City maintains a number of parks, including Refugio Valley Park, Ohlone Park, Woodfield Park, Foxboro Park, Frog Pad Park, Duck Pond Park, and Railroad Park. Franklin Canyon Golf Course, a private golf course, which provides additional recreational opportunities, is located in the east.

1.2.3 Project Background

The Circulation Element is one of the seven State-mandated elements of the General Plan, and provides the basis for decision-making regarding the continued development and enhancement of the City's transportation system. The last update to the Circulation Element occurred in 1998. Since then, conditions in the City have changed significantly, as have State laws relevant to transportation and land use. Given the changes that have taken place over the last 20 years, within Hercules and the region, and in response to the ongoing evolution in transportation technology, an update to the Circulation Element is necessary.

1.2.4 Project Components

The Circulation Element Update includes an introduction and overview of State general plan law, and the relationship of the Circulation Element to the City's General Plan and other plans; a description of the City's circulation characteristics, including commuter patterns; a description of the City's circulation network, including pedestrian and bicycle facilities; a discussion of roadway performance standards; a number of goals, policies, and implementation actions; and a list of anticipated circulation system improvements.

Specific projects recommended in this Circulation Element Update are classified as near-term, mid-term, long-term, or conceptually defined improvements. These projects include roadway system improvements, complete streets, pedestrian and/or bicycle facilities, transit, and emergency access.

1.3 REQUIRED CEQA DOCUMENTATION

The City has determined that California Environmental Quality Act (CEQA) compliance for the Circulation Element Update will be achieved through preparation and adoption of a “Negative Declaration.” Under CEQA, a Negative Declaration is a statement prepared by the Lead Agency (in this case, the City of Hercules), pursuant to section 15070 of the CEQA Guidelines, describing the reasons a proposed project would not have a significant effect on the environment and, therefore, does not require an Environmental Impact Report (EIR). Section 15070 provides for Lead Agency adoption of a Negative Declaration (instead of a Mitigated Negative Declaration or an EIR) if an “Initial Study” prepared pursuant to CEQA Guidelines section 15063 shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment.

Section 3 of this report constitutes the Evaluation of Environmental Impacts (Initial Study) for the project. The Initial Study has been prepared to include all Initial Study components required by section 15063 of the CEQA Guidelines, including a project description (briefly summarized in section 1.2 above), an identification of the project's environmental setting and effects, and a determination of whether the project would be consistent with existing City policies and regulations.

2. EVALUATION OF ENVIRONMENTAL IMPACTS (INITIAL STUDY)

This section includes all Initial Study contents required by section 15063(d) of the CEQA Guidelines, including a project description, an identification of the project's environmental setting and impacts, and a determination of whether the project would be consistent with existing City policies and regulations.

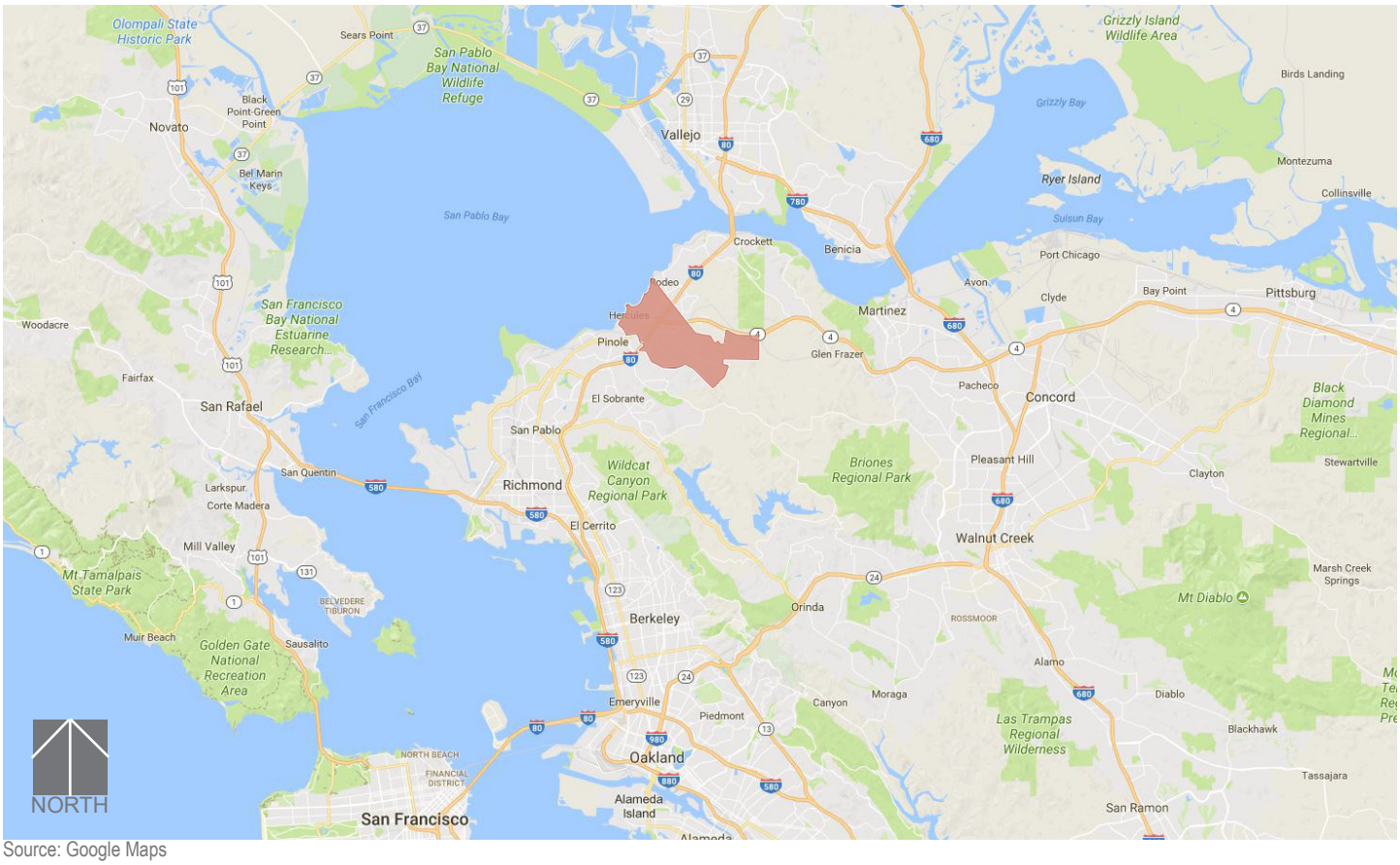
2.1 PROJECT DESCRIPTION

2.1.1 Project Title:	**Update to the Hercules General Plan Circulation Element**
2.1.2 Lead Agency Name and Address:	City of Hercules 111 Civic Drive Hercules, California 94547
2.1.3 Contact Person and Phone Number:	Holly Smyth Planning Director Telephone: (510) 799-8251 FAX: (510) 799-8249 E-Mail: hsmyth@ci.hercules.ca.us
2.1.4 Project Location:	City of Hercules, in Contra Costa County
2.1.5 Project Sponsor Names and Addresses:	City of Hercules 111 Civic Drive Hercules, California 94547
2.1.6 General Plan Designations:	Various
2.1.7 Zoning:	Various

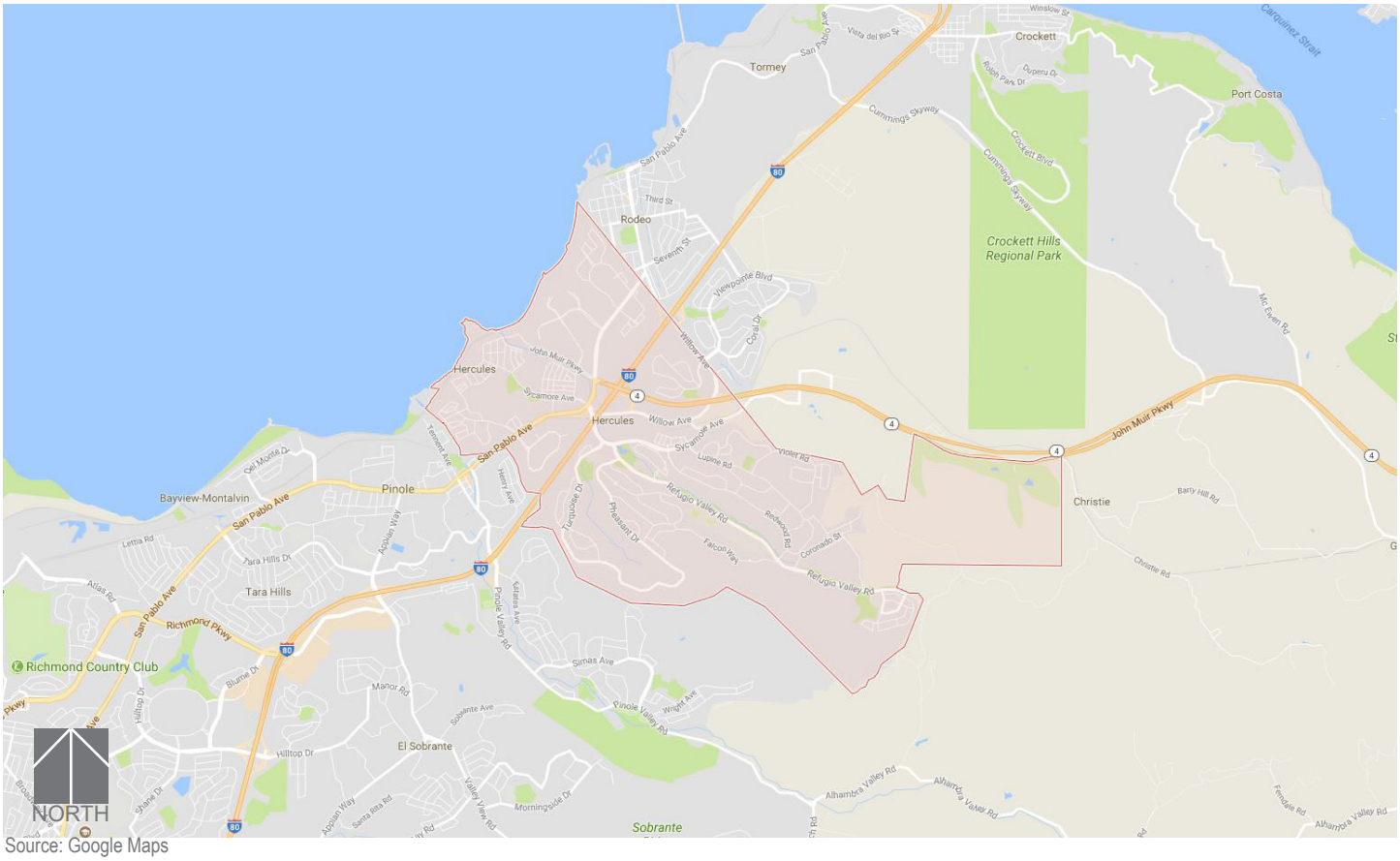
2.1.8 Regional Location:

As illustrated by Figure 1, the City of Hercules is located in western Contra Costa County, within what is referred to as the "West County" area. The West County area includes the urbanized shoreline of San Francisco and San Pablo Bays, separated from the rest of Contra Costa County by the Briones Hills and open space lands.

The City is bordered on the west by San Pablo Bay, and on the north and east by unincorporated County lands, including the unincorporated community of Rodeo and watershed lands owned by the East Bay Municipal Utility District. To the south and west is the City of Pinole. Key regional transportation routes within the City include Interstate 80 (I-80), State Highway 4 (Hwy 4), and San Pablo Avenue.



Source: Google Maps



Source: Google Maps

Figure 1. Project Area and Vicinity

2.1.9 Local Setting:

The City of Hercules encompasses about eight square miles. It surrounds the junction of Interstate 80 (I-80), a north-south interstate freeway which bisects the City into eastern and western sides, and State Highway 4 (Hwy 4), an east-west State highway which connects Hercules to locations in eastern Contra Costa County, the Central Valley and the Sierra Nevada mountains, and terminates at the junction with I-80 in Hercules. Most of the City's land area is located east of I-80, which runs generally north-south through the city. The City's largest land use type is residential, with the majority of the single-family detached homes east of I-80. Newer higher density housing development has occurred west of I-80, with new residential and commercial projects planned for this area that are in various stages of the approval and construction processes. Commercial uses are mostly community- and neighborhood-serving, and are concentrated along the two east-west running roads of Sycamore Avenue and Willow Avenue near the I-80 Hercules off-ramps. There is a significant amount of vacant commercially designated land located in close proximity to I-80 and Hwy 4. Research and development (R&D) and office uses are primarily located in the northwest portion of the city.

Two railroads operate through Hercules: the Union Pacific Railroad (UPRR) runs north/south along the City's San Pablo Bay frontage, and the Burlington Northern and Santa Fe Railway line runs east/west roughly through the center of the City.

2.1.10 Existing Circulation System Characteristics:

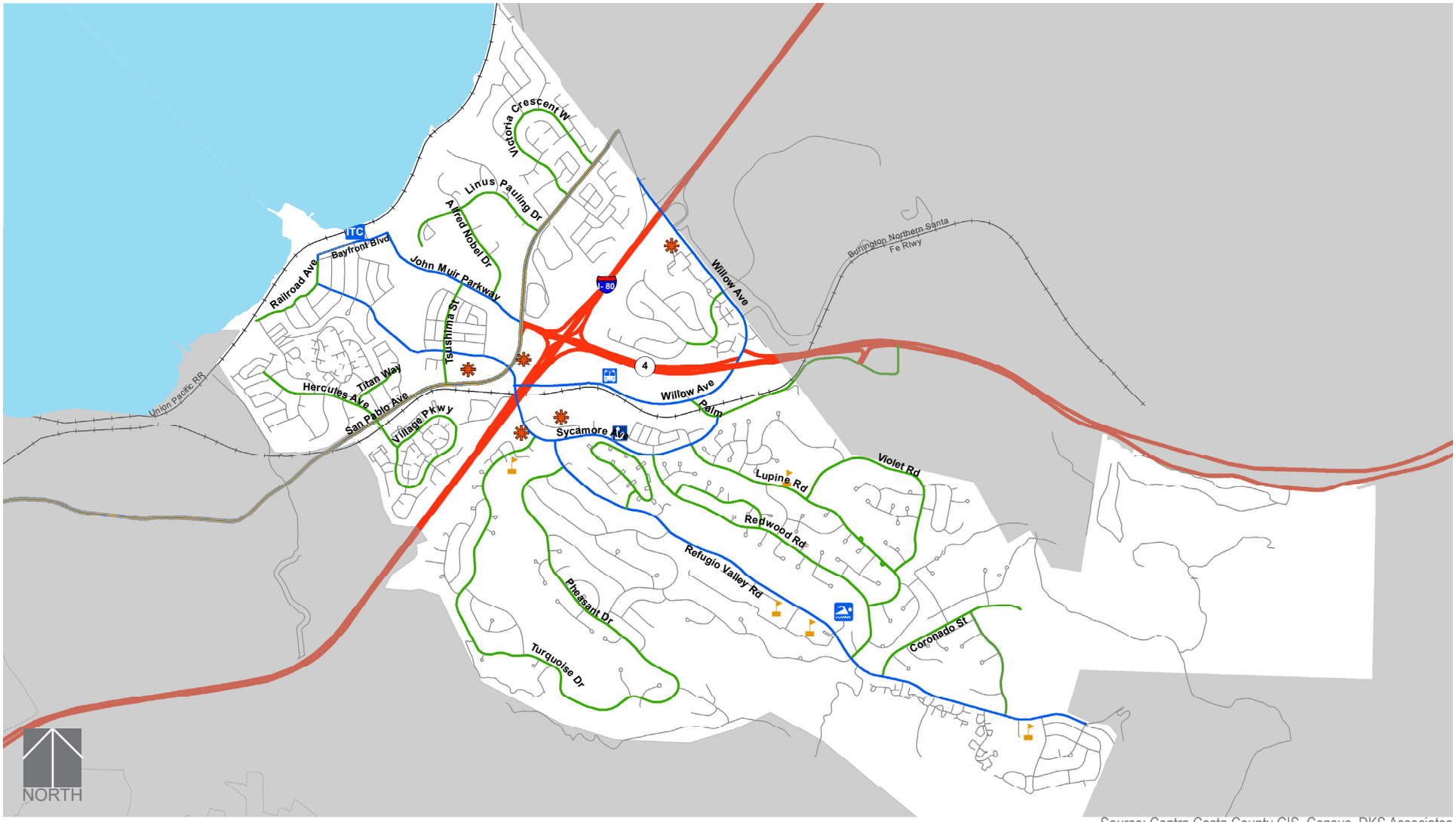
(a) Existing Roadway System. The existing roadway system (local and regional roadways) serving the City is comprised of routes of regional significance,[1] freeways, arterials, collectors, and local roads. Figure 2 shows the existing roadway system. Figure 3 shows designated truck routes through the City.

(1) Routes of Regional Significance. Routes of Regional Significance (Regional Routes) are defined by the CCTA West County Action Plan and provide for inter-community, statewide, and interstate travel. Planning of these facilities rests largely with agencies other than the City. These routes include: Interstate 80 (I-80), State Highway 4 (Hwy 4), and San Pablo Avenue.

(2) Arterials. Arterial streets primarily serve intra-city travel and carry traffic from "collector streets" to and from other parts of the City or to regional routes. Arterials include: Bayfront Boulevard, John Muir Parkway, Refugio Valley Road, Sycamore Avenue (west of Palm Avenue), and Willow Avenue.

(3) Collectors. Collector streets directly or indirectly link local streets with arterials and are designed primarily to serve residential and commute traffic. Collectors include: Alfred Nobel Drive, Canterbury Drive, Carson Road, Coronado Street, Hercules Avenue, Linus Pauling Drive, Lupine Road, Palm Avenue, Pepperwood, Pheasant Avenue, Sycamore Avenue east of Palm, Railroad Avenue, Redwood Road, Titan Way, Tsushima Street, Turquoise Drive, Valley Run, Victoria Crescent West, Village Parkway, and Violet Road.

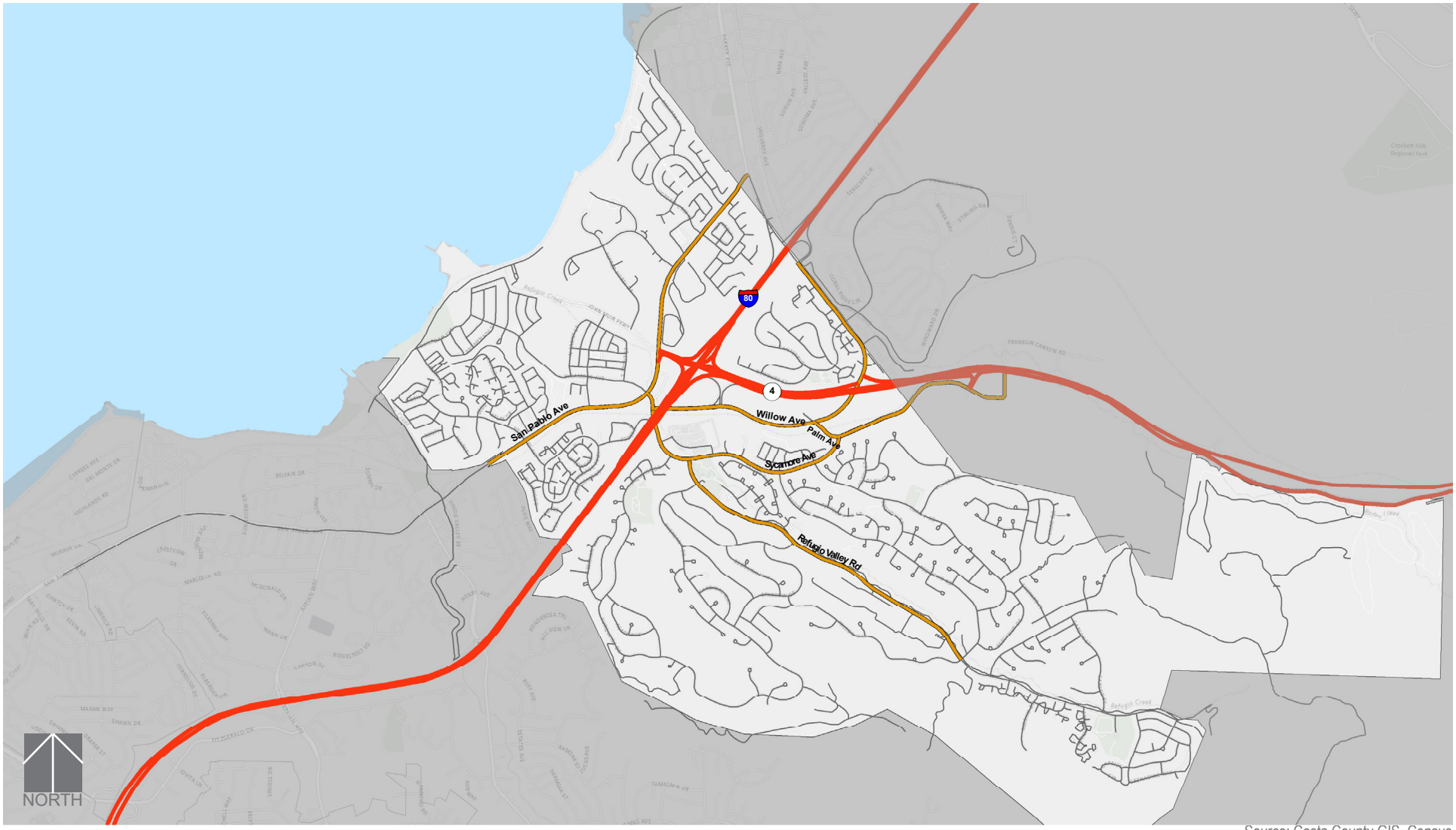
[1]The Contra Costa Transportation Authority (CCTA) is the State-designated Congestion Management Agency (CMA) representing jurisdictions in Contra Costa County, and has authority to designate "routes of regional significance" for which it is responsible for coordinating planning, maintenance and funding.



Source: Contra Costa County GIS, Census, DKS Associates

Library
Recreational
Regional Intermodal Transit Center
Hercules Transit Center
School
Activity Node
RRS Freeway
RRS Arterial
Arterial
Collector
Local
Railroads

Figure 2. Roadway System



Source: Costa County GIS, Census

Truck Route

Figure 3. Truck Routes

(4) Local Roads. Local roads are intended to provide direct access to abutting land uses. Roads in Hercules that are not designated as Collector, Arterial, or Routes of Regional Significance are typically classified as "local roads" based on their current design and usage, and while similar to collector streets (i.e., similar travel lanes, parking, and sidewalks), are anticipated to have lower traffic volumes and speeds, which allow for a narrower right-of-way width.

(b) Complete Streets. Complete Streets are designed and operated to enable safe access for all users – not only vehicles, but pedestrians, bicyclists, motorists and transit riders of all ages and abilities. In 2014, the City adopted "Complete Streets" policies and began to implement best practices into circulation system improvements, such as the Refugio Valley Road corridor. While each "Complete Street" may be unique, they all share common components such as pedestrian walkways, bicycle lanes, special bus lanes, comfortable and accessible transit stops, frequent pedestrian crossing opportunities, and design elements for pedestrian safety such as median islands and curb extensions.

(c) Pedestrian Facilities. Pedestrian facilities in Hercules include sidewalks adjacent to most public roadways; multi-use paths such as Refugio Valley Trail, the San Francisco Bay Trail, the Creekside Trail, and Pinole Creek Trail; trails defined or constructed by the City or other outside agencies; and informal trails. Figure 4 shows existing pedestrian facilities and recommended future improvements.

(d) Bicycle Facilities. The existing bicycle network consists of both on-street and off-street facilities, including multi-use trails. Bicycle circulation helps reduce congestion from automobiles and adds to other positive community benefits; a comprehensive and connected network of bicycle and pedestrian facilities remains a City priority. Figure 5 shows existing bicycle facilities and recommended future improvements.

(e) Transit. Public transit in Hercules is provided by the Western Contra Costa Transit Authority (WestCAT), which provides bus service with connections to the Bay Area Rapid Transit (BART) system and to the AC Transit system. WestCAT operates nine bus lines that serve Hercules, including Lynx Transbay service, and also offers Dial-A-Ride service for disabled citizens living within the WestCAT service area, providing travel to the Richmond and San Pablo areas for medical appointments or other special needs. Figure 6 shows existing transit routes in the City.

(f) Emergency Access. In the event that an evacuation would be required, there are five evacuation routes: San Pablo Avenue north and south, I-80 north and south, and Hwy 4 to the east. More information on emergency access and hazards can be found in the Safety Element of the General Plan. Figure 7 shows emergency access routes for the City.

2.1.11 Project Background:

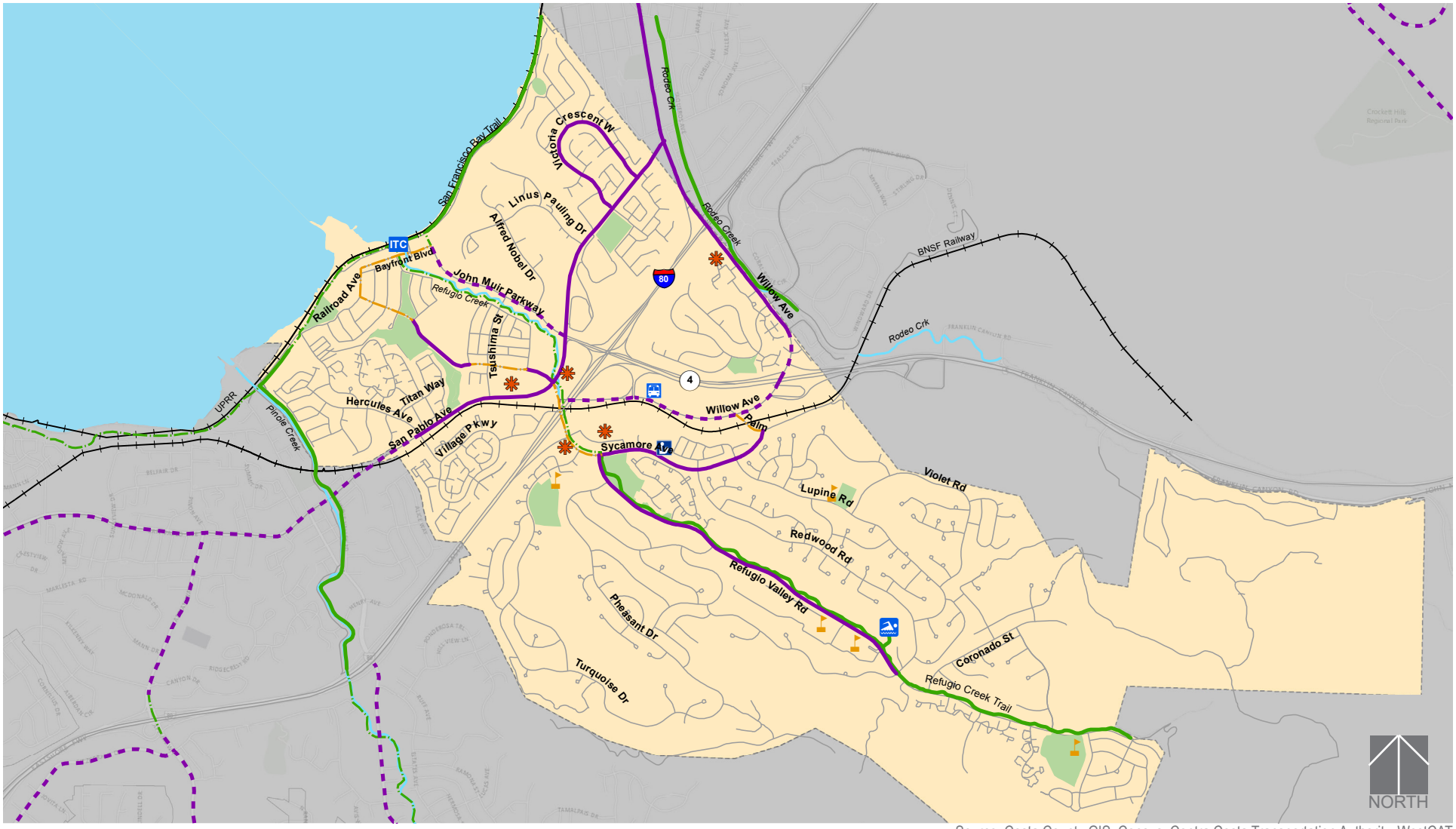
The project consists of an update to the City of Hercules General Plan Circulation Element ("Circulation Element Update"), which addresses future transportation and circulation goals for the City, and designates policies and implementation actions to bring them about.

As one of the seven State-mandated elements of the General Plan, the Circulation Element provides the basis for decision-making regarding the continued development and enhancement of the transportation system to meet the needs of the City's residents, employees, and visitors,

Source: Costa County GIS, Census

Existing Multiuse
Proposed Multiuse
Existing Trail
Proposed Trail
Informal Trail
Potential Sidewalk
Library
Recreational
Regional Intermodal Transit Center
Hercules Transit Center
School
Activity Node

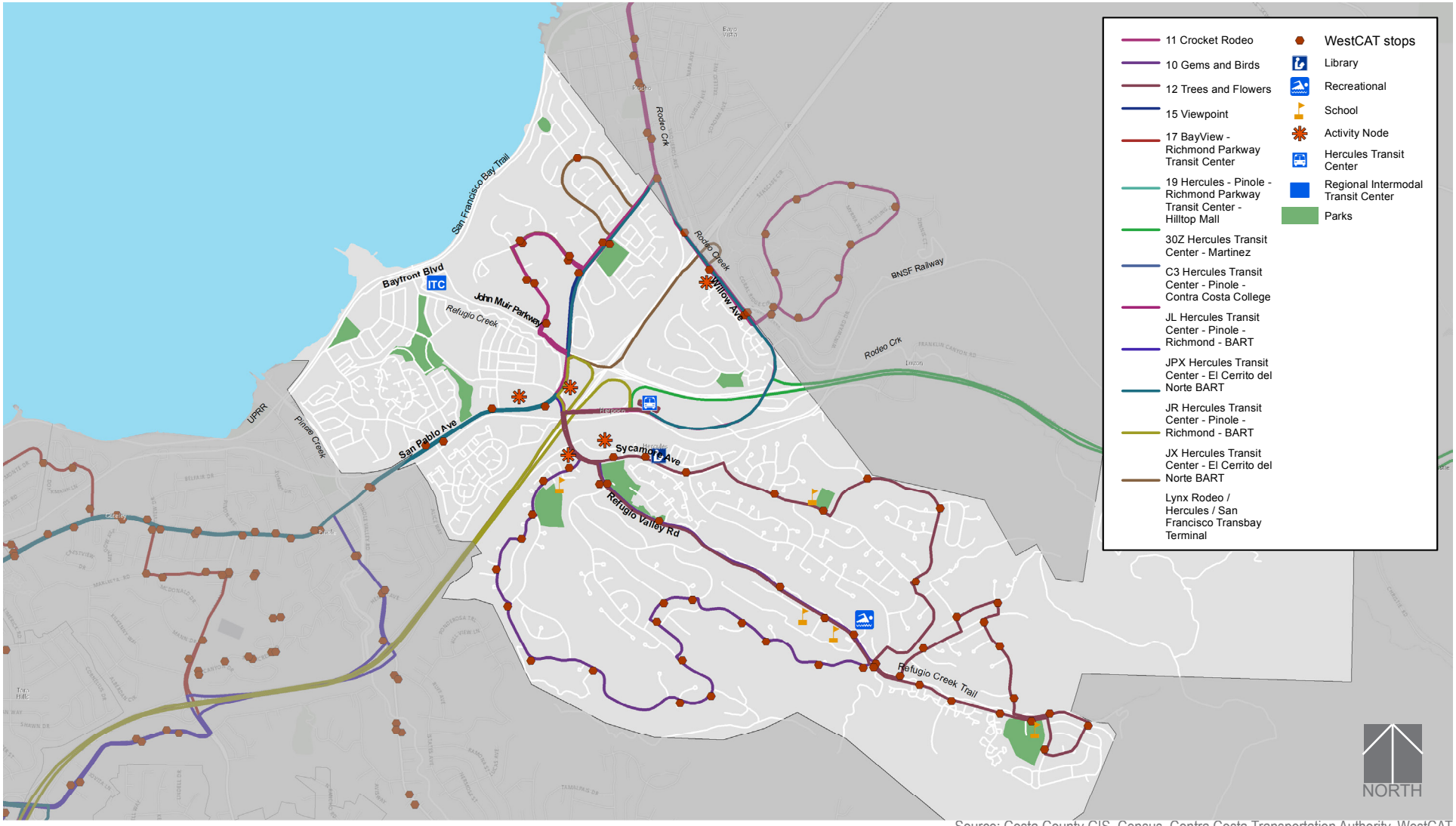
Figure 4. Pedestrian Facilities



Source: Costa County GIS, Census, Contra Costa Transportation Authority, WestCAT

- Library
- Recreational
- Regional Intermodal Transit Center
- Hercules Transit Center
- School
- Activity Node
- Existing Multiuse (Class I)
- Proposed Multiuse
- Existing Bike Lanes (Class II)
- Proposed Bike Lanes
- Proposed Bike Route (Class III)
- Parks

Figure 5. Bicycle Facilities



Source: Costa County GIS, Census, Contra Costa Transportation Authority, WestCAT

Figure 6. Existing Transit Routes

Source: Costa County GIS, Census, Contra Costa Transportation Authority, WestCAT

Railroad Undercrossing
Freeway Structure
Bridge
Library
Recreational
School
Hercules Transit Center
Regional Intermodal Transit Center
Railroads
Evacuation Route
Proposed Evacuation Route

Figure 7. Emergency Access Routes

as well as prepare for the community's future residential and commercial needs. This Circulation Element Update comprehensively updates the previous Circulation Element adopted in 1998. In 1998, the Circulation Element focused mainly on automobile users and roadways; State laws pertaining to greenhouse gases were several years away. There were no Priority Development Areas (PDAs), no focused transportation investment strategies, and no trip reduction strategies. Given the land use and regulatory changes that have taken place over the last 20 years within Hercules and the region, and in response to the ongoing evolution in transportation technology, an update to the Circulation Element is necessary.

In addition, recent State legislation requires increased emphasis on the "Complete Streets" concept, greenhouse gas reduction, and equitable access for all users. One of the primary aims of the Circulation Element is to support a "Complete Streets" program, and enhance the mobility and safety of all transportation modes, thereby ensuring adequate attention is given to all travel modes in planning, design, funding, and implementing the City's transportation network.

Since the last comprehensive update of the General Plan Land Use Element in 1998, the City has approved a number of development proposals, which require transportation network mitigations (as specified in their respective environmental documents), including Hercules New Town Center, Hill Town and Sycamore Crossing, and the Hercules Bayfront Project. These transportation network mitigations have been included in this Circulation Element Update as part of the future condition, which uses a horizon year of 2040. Forecasts of future travel patterns have been derived from the Contra Costa Transportation Authority's (CCTA) regional travel model.

2.1.12 Proposed Project:

The Circulation Element Update includes an introduction and overview of State general plan law and the relationship of the Circulation Element to the City's General Plan and other plans (such as Plan Bay Area, the Countywide Comprehensive Transportation Plan, etc.) (section 1); a description of the City's circulation characteristics, including commuter patterns (section 2); a description of the City's circulation network, including pedestrian and bicycle facilities, and a discussion of roadway performance standards (section 3); a statement of goals, policies, and implementation actions (section 4); and a list of recommended circulation system improvements (section 5).

(a) Goals and Policies. The Circulation Element presents seven fundamental goals to promote and support a multimodal transportation system that can provide safe and convenient mobility for the City's residents, visitors, and workers. Each goal includes one or more policies and/or implementation actions formulated to bring about these goals. The following is a list of these goals with a discussion of how the Circulation Element Update intends to achieve them.

Goal 1: Maintain and Enhance the City's Multimodal Circulation System

The Circulation Element Update focuses on both the existing circulation system needs and expanding multimodal opportunities throughout the transportation network for all users. Policies and actions related to this goal include establishing multimodal standards to cover traffic operations; implementing improvements to bicycle/pedestrian connectivity and transit accessibility; focusing on funding for and implementing multimodal improvements; and identifying and promoting projects to fill gaps in the bicycle and pedestrian network.

Goal 2: Land Use and Infrastructure

The Circulation Element Update supports investment and improvements in the City's Priority Development Areas (PDAs) – the Waterfront District, Central Hercules, and the San Pablo Corridor – with policies and actions related to this goal that focus on making improvements in these PDAs.

Goal 3: Preserve and Enhance Community Character

The Circulation Element Update continues and broadens support for preserving community character with distinct neighborhoods. Policies and actions related to this goal include promoting complete streets and other road design techniques to define neighborhoods and create an attractive town; and considering use of roundabouts, landscaped medians, and other traffic calming measures to reduce speeding and improve safety.

Goal 4: Reduce the Reliance on the Automobile

The Circulation Element Update supports the City as a multimodal community with transportation hubs like the Regional Intermodal Transportation Center (RITC) and Hercules Transit Center. Policies and actions related to this goal include working with transit service providers (i.e., rail, bus, ferry) to provide multimodal access to the RITC; working with BART to accommodate the needs of City residents with respect to any potential BART expansion; and supporting alternatives to driving by considering pedestrian/bicycle network improvements for priority funding.

Goal 5: Reduce Vehicular Traffic Generation and Greenhouse Gas Emissions in Hercules

The Circulation Element Update addresses the effect of the transportation system on the environment and the region, with policies and actions related to this goal that support alternative transportation options such as carsharing and zero-emission vehicles, reduced parking requirements, and more efficient parking strategies (e.g., shared parking and pricing strategies).

Goal 6: Cooperative Multijurisdictional Planning

The Circulation Element Update continues support of county, regional, and State transportation agencies, including the Contra Costa Transportation Authority (CCTA), WestCAT, Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), BART, and Caltrans. Policies and actions related to this goal include coordinating with neighboring agencies on improvements to Routes of Regional Significance, and working with transit agencies to coordinate all types of transit service for Hercules.

Goal 7: Retain Flexibility to Adapt to Future Changes

The Circulation Element Update supports and encourages complete street, multimodal standards, and changing technology, and promotes regular updates to standards and parking requirements as needed. Policies related to this goal include regularly updating operational and design standards to reflect changes in statutory requirements, promoting flexibility in encouraging emerging vehicle technology as it continues to evolve.

(b) Circulation System Improvements. The Circulation Element Update includes a list of improvement projects developed from several sources. Improvements required as part of previously adopted General Plan amendments have been included to maintain City operational standards and accommodate planned growth. Other improvements, such as filling in the bicycle and pedestrian networks, are recommended based on policies contained in the Circulation Element Update or input received at a public workshop. Finally, projects such as the Intermodal Transit Center, which are regional in scope but located in Hercules, have been included.

Projects recommended in the Circulation Element Update are classified in one of the following categories:

- Near-Term Improvements. These improvements consist of funded improvements that are currently or will be soon under construction. These improvements include projects that are nearing approval, or that can be implemented as part of routine maintenance projects, or that are priorities for the community.

- Mid- and Long-term Improvements. The need for these improvements has been identified but funding sources have not been secured. Prioritization will be required as details for these projects are established.

- Conceptually Defined Improvements. These improvements have been defined at the conceptual level but will require further study to produce planning level designs.

Table 1 lists these recommended transportation improvement projects, and Figure 8 shows an overview of recommended roadway system improvements. (Figures 4 and 5, above, show pedestrian and bicycle improvements, respectively.)

It is important to note that depending on changing needs or as environmental, fiscal, and/or social conditions and constraints evolve, the City may desire additional or changed/refined improvements.

2.1.13 Required Approvals:

In order to adopt the Update to the Circulation Element, the City must first approve this Initial Study/Negative Declaration (IS/ND), indicating that the project would have no adverse effect on the environment. This project also requires City approval of a General Plan Amendment.

Any future circulation system projects that are brought forward would require their own CEQA review by the City and/or permits from other agencies (e.g., freeway ramp relocation, EBMUD trail extension).

2.1.14 Native American Tribal Consultation:

Pursuant to Public Resources Code section 21080.3.1, as of October 4, 2017, no Native American tribe has requested an AB 52 consultation.

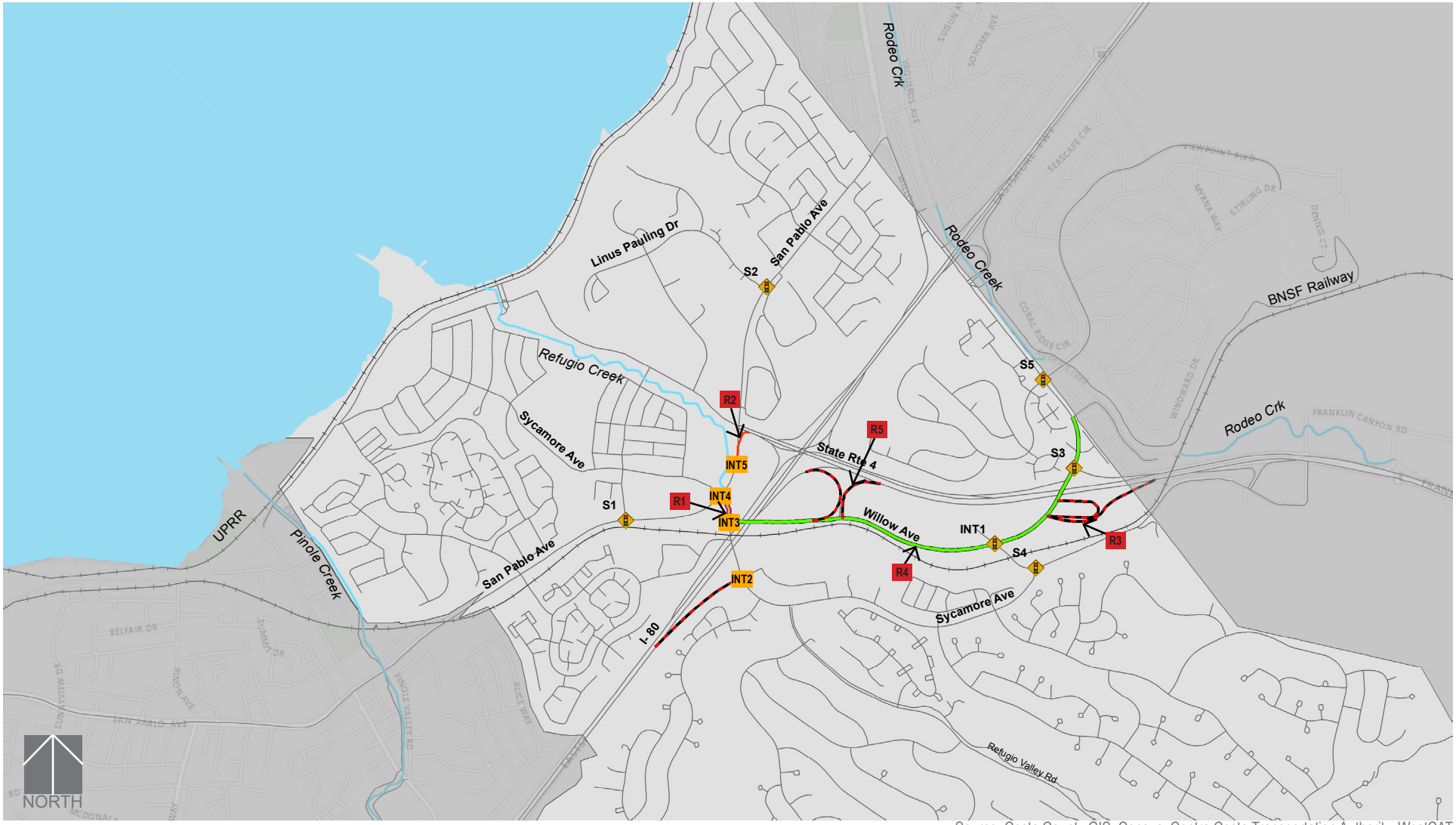
Table 1
RECOMMENDED TRANSPORTATION IMPROVEMENT PROJECTS

Project Description	**Project Type**	**Status[1]**	**Figure 8 Reference[2]**
Intersection improvements at Willow & Palm	roadway	LT	INT1
Re-time signal at intersection of relocated EB I-80 off ramp; upgrade curb ramps to ADA standards	intersection	LT	INT2
Willow Avenue & Sycamore Avenue intersection improvements	roadway	LT	INT3
Add third stacking through lane to San Pablo & Sycamore along NB San Pablo approach	intersection	NT	INT4
Pedestrian activated signal phase at Market Hall driveway across San Pablo Avenue	safety	NT	INT5
Signalize San Pablo Avenue & Tsushima; allow full access to Tsushima	intersection	NT	S1
Signalize intersection of San Pablo & Linus Pauling; add turn lanes	intersection	LT	S2
Signalize WB Hwy 4 ramp & Willow	intersection	LT	S3
Signalize or roundabout at Intersection of Sycamore & Palm	intersection	LT	S4
Signalize intersection of Willow & Canterbury; include pedestrian phase	arterial/ intersection	LT	S5
Reconfigure Sycamore Avenue cross section between Willow and San Pablo Avenues to 7 lanes	intersection	LT	R1
Double right turn lanes from NB San Pablo Avenue to Hwy 4 and I-80 ramps	roadway	LT	R2
Relocate EB Hwy 4 ramps at Willow further east	ramp	LT	R3
Widen Willow Avenue to 4 travel lanes; intersection improvements at Willow & Palm	ramp	LT	R4
Relocate EB I-80 off to exit at Sycamore & Creekside Center driveway;	roadway	LT	R5
Evaluate local and collector streets with a history of speed related collisions for traffic calming measures	traffic calming	LT	n/a
Update curb ramps to ADA standards at all marked crosswalks	ADA	LT	n/a
Hercules Creekside Trail and Boardwalk along Refugio Creek between Sycamore Avenue and ITC	bicycle/pedestrian	NT	n/a
Add multiuse path along San Pablo and Sycamore Avenues at Market Hall site	complete streets	NT	n/a
Improve pedestrian and bicycle access across BNSF railway via Palm	connectivity	CD	n/a
Complete Bay Trail through Hercules	connectivity	NT	n/a

Project Description	**Project Type**	**Status[1]**	**Figure 8 Reference[2]**
Expand bicycle network to serve all elementary schools and major employment centers; fill in gaps in bicycle network	connectivity	LT	n/a
Add/Improve pedestrian facilities on Willow Ave to connect to HTC	connectivity	LT	n/a
Extend pedestrian connections to Rodeo	connectivity	NT	n/a
Create better network of sidewalks and pedestrian connections between neighborhoods	connectivity	NT	n/a
Complete bicycle facilities on Willow Avenue between Hercules Transit Center and Mariner's Pointe	connectivity	NT	n/a
Add lighting as needed for safety along Refugio Valley Trail and San Francisco Bay Trail	safety	LT	n/a
Remove crosswalk over San Pablo from north approach for safety	safety	NT	n/a
Patterned or enhanced crosswalks	safety/community	NT	n/a
Provide shelters along WESTCAT Route J line on San Pablo with real-time arrival signs	amenity	NT	n/a
Transit signal priority along San Pablo, Sycamore, & Willow Avenues	connectivity	LT	n/a
Parking for Intermodal Transit Center	rail/rapid transit	LT	n/a
Complete Intermodal Transit Center/Rail Station	transit	NT	n/a

SOURCE: City of Hercules, DKS Associates; August 2017.

(1) "Status" codes: NT = Near-term; LT = Long-term; CD = Conceptually Defined
(2) n/a = locations of these improvements are generally identified on Figures 4 and 5.



Source: Costa County GIS, Census, Contra Costa Transportation Authority, WestCAT

New or relocated facilities (R3 and R5)

Add right turn lane (R2)

7 lane cross section (R1)

Widen to 4 travel lanes (R4)

Intersection Improvements

Signalize Intersection*

Figure 8. Roadway System Improvements

2.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be affected by this project, involving at least one impact that is "Less Than Significant Impact With Mitigation," as indicated by the checklist and narrative on the following pages.

- □ Aesthetics/Visual Factors
- □ Agricultural and Forestry Resources
- □ Air Quality
- □ Biological Resources
- □ Cultural/Historic Resources
- □ Geology/Soils
- □ Greenhouse Gas Emissions
- □ Hazards & Hazardous Materials
- □ Hydrology/Water Quality
- □ Land Use/Planning
- □ Mineral Resources
- □ Noise
- □ Population/Housing
- □ Public Services
- □ Recreation
- □ Transportation/Traffic
- □ Tribal Cultural Resources
- □ Utilities/Service Systems
- □ Mandatory Findings of Significance

2.3 DETERMINATION (to be completed by the Lead Agency):

On the basis of this initial evaluation:

■ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

□ I find that although the proposed project COULD have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

□ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

□ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

□ I find that although the proposed project COULD have a significant effect on the environment, because all potentially significant effects (1) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (2) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: _____ Date: _____

Printed name: Holly Smyth
Planning Director
City of Hercules

2.4 ENVIRONMENTAL IMPACTS

The purpose of this Initial Study is to identify any potentially significant adverse environmental impacts associated with the project, and to identify mitigation measures that would reduce these impacts to a less-than-significant level. The analysis is based on: (1) review of information provided by the City; and (2) an independent evaluation conducted by the City's environmental consultants.[1] The analysis format incorporates the list of questions included in the environmental checklist form suggested in Appendix G of the CEQA Guidelines, and provides for one of the following answer choices for each environmental topic: NO IMPACT, LESS-THAN-SIGNIFICANT IMPACT, LESS-THAN-SIGNIFICANT WITH MITIGATION, or POTENTIALLY SIGNIFICANT IMPACT. Each answer is followed by an explanation.

2.4.1 Aesthetics

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion

Most of Hercules lies within the lower portion of Refugio Valley encompassed by a perimeter hilly area and San Pablo Bay. The Refugio Creek Valley floor, which features wetland and riparian resources along Refugio Creek, has elevations of approximately 8 to 14 feet above the creek bed and includes vistas northward to Hercules Point, and views of the shoreline beyond the bay. Higher elevations in the City include vantage points with clear views of the Bay as well as distant views of the coastal range in Marin County. The Franklin Canyon corridor (via Hwy 4) offers scenic valley views and views of rolling hills, natural and undeveloped hillsides, and oak woodlands.

Major scenic vistas in Hercules include the I-80 freeway, which provides distant views of San Pablo Bay and nearby hillside areas, and Hwy 4, which affords views of Franklin Canyon and hillsides in their natural state. Neither I-80 nor Hwy 4 is designated as a State scenic highway. However, the City has designated San Pablo Avenue (from Pinole Valley Road to Willow

[1]See Appendix 3.1 for Report Preparers (Initial Study consultants).

Avenue), Hwy 4 (from I-80 to the eastern border of Hercules near Franklin Canyon), and Refugio Valley Road (from Sycamore Avenue to Falcon Road) as City Scenic Routes.

The City of Hercules is not located adjacent to or within the view shed of a State scenic highway and, therefore, any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would have no impact on a State scenic highway or any resources within a State scenic highway.

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with the City's Tree Removal Policy requiring replacement of any trees removed.[1] Any future pedestrian trail lighting would be required to comply with City Standard Design, Plans & Specifications.[2]

Impacts of Circulation Element Adoption:

a) through d) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to scenic vistas or highways. Also, adoption of the Circulation Element Update would not degrade the existing visual character of the City, nor result in any light and glare impacts.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.2 Agricultural and Forestry Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:*				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

[1] City of Hercules Municipal Code, Title 4, Chapter 15, Section 4-15.05.

[2] City of Hercules Public Works Department, 2002 Standard Plans/Design Standards/Standard Specifications, Section 16 - Street Lighting.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
*In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				

Discussion

According to the City of Hercules General Plan, and based on data from the California Department of Conservation, the project site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, nor does it contain land zoned for agricultural use or land under a Williamson Act contract. Most of the land in the City is designated by the State as "Urban and Built Out," which includes areas occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. The remaining land is designated by the State as "Grazing Land," which includes land with existing vegetation suitable for livestock grazing, and land designated as "Other Land," which includes land not in any other mapping category, such as vacant or non-agricultural land surrounded on all sides by urban development. There are no timber resources or forest land within the City.[1]

Impacts of Circulation Element Adoption:

a) through e) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to

[1]California Department of Conservation (CDC), Contra Costa County Important Farmland 2014, ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/con14.pdf, accessed 9/19/17; CDC, Contra Costa County Williamson Act 2012/13, ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Contra_Costa_12_13_WA.pdf, accessed 9/19/17.

agricultural or forest resources. Because the City does not contain any Prime Farmland, Unique Farmland, Farmland of Statewide Importance, timber resources, or forest land, any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would not convert any of these resources, and therefore would not result in any impact on farmland, timber resources, or forest land.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.3 Air Quality

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Discussion

The Bay Area Air Quality Management District (BAAQMD) is responsible for maintaining air quality in the San Francisco Bay Area Air Basin (S.F. Air Basin), and does this by regulating emissions of criteria and toxic air pollutants. The BAAQMD “Spare the Air - Cool the Climate 2017 Clean Air Plan” (Clean Air Plan), which updates the previous 2010 Clean Air Plan, contains a long-term strategic vision for what a “clean air” Bay Area would look like in the year 2050. The Clean Air Plan includes more incentives for electric vehicle infrastructure, and for reducing emissions from trucks, school buses, and other vehicles and equipment.

Hercules is located within the S.F. Air Basin, and benefits from Bay breezes that help produce in a generally mild climate. Low clouds during the late night and early morning are common in spring and summer. The prevailing wind direction is from the southwest.

Air quality in any area is related to how emissions of pollutant are influenced by topographic features and meteorological factors. The physical features and atmospheric conditions of an

area affect the movement and dispersion of pollutants, which in turn largely determine its air quality.

The largest existing sources of pollutants in the City are vehicles on the local roadway network. In addition, commercial businesses and residences in the vicinity contribute air pollutants through fume-producing operations and the combustion of fuels for space heating and water heating.[1]

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with Hercules General Plan Objective 11 (improving air quality in the community) and Policy 11a (requiring construction period air quality controls).[2]

Impacts of Circulation Element Adoption:

a) through e) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to air quality. Adoption of the Circulation Element Update would not violate any air quality standard or contribute to an existing air quality violation, would not result in a cumulatively considerable increase of any criteria pollutant, would not expose sensitive receptors to pollutant concentrations, and would not create objectionable odors. Adoption of the Circulation Element Update would support the Clean Air Plan, and would therefore be considered consistent with the Clean Air Plan.

Mitigation: No impacts have been identified; no mitigation measures are required.

[1] Hercules Bayfront Project Draft EIR, November 2010, p. 5-9; Hercules General Plan *Open Space/Conservation Element*, Amended, p. V-12.

[2] Hercules General Plan *Open Space/Conservation Element*, Amended, p. V-32.

2.4.4 Biological Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

Vegetation. Vegetation types in the salt marsh and freshwater wetlands occurring along bay margins, lagoons, and estuaries (e.g., Hercules Point, parts of Refugio Valley) are characterized by salt-tolerant plants, such as pickleweed (*Sarcocornia pacifica*) and saltgrass (*Distichlis spicata*). Coast and valley freshwater marsh areas, which lack strong currents or are otherwise permanently flooded with freshwater, include species such as sedges, spike-rush, tule, and cattail. Arroyo willow is the dominant canopy species in willow scrub riparian communities, which occur along the main channel of Refugio Creek (east of I-80). Central coast live oak riparian forest occurs along the banks of drainages in the southeastern portion of Hercules as

well as on the hillsides of Refugio Valley, and includes native bunchgrasses and non-native grasses, scrub, and chaparral species. The east branch of Refugio Creek contains California bay, coast live oak, and arroyo willow, and occurs in outer floodplains and perennial and ephemeral streams. Non-native tree species in Hercules are dominated by eucalyptus, primarily blue gum. Non-native grassland, typically in valleys and on hillsides, includes Johnny jump-ups and California poppies, which bloom during spring and early summer.[1]

Wildlife. Habitat for wildlife in the City includes areas and places where species live, forage, nest, and find shelter from predators. The City does not have a substantial amount of wildlife or habitat areas, compared to some of the unincorporated areas in Contra Costa County, but does have wetland habitat along the shoreline and Refugio Creek, and also has open space in the hills. Wetland habitat along and near Refugio Creek and its tributaries provides water, food, and cover for many species. Salt marsh areas provide food and cover for nesting bird and mammal species, such as California clapper rail, California black rail, salt marsh harvest mouse, and wandering vagrant shrew. Common species include herons and egrets, who use the salt marsh for foraging while nesting in riparian areas nearby. During the winter and spring migrations along the Pacific Flyway, waterfowl also use salt marshes.

Willow riparian habitat, which also occurs along Refugio Creek (east of I-80) and in places along the western branch of the creek, attracts birds such as warbling vireo and black phoebe, as well as mallards and snowy egrets, sharp-shinned hawks, and red-shouldered hawks. Raccoon and striped skunk forage on invertebrate species, plants, amphibians, and fruits. The coast live oak riparian habitat is found in canyon bottoms along the southeastern portion of the City, and provides water, foraging, nesting, cover, and migrating and dispersal corridors for wildlife species. Non-native grassland has largely replaced the annual grasslands, and occurs in most undeveloped areas in the City, supporting wildlife species.[2]

Special-Status Species. Review of the California Natural Diversity Data Base (CNDDB) records of the California Department of Fish and Wildlife (CDFW) indicates that a number of special-status species have been reported within Hercules and vicinity.[3]

Because of the developed nature of much of the City, suitable habitat for special-status animal species is often absent, or is limited to potential foraging and possible dispersal habitat. However, in areas with more open space such as Refugio Creek Valley, which would be potential areas for trail and bicycle path extensions, some special-status bird species, including San Pablo song sparrow (*Melospiza melodia samuelis),* California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis coturniculus*), and salt marsh common yellowthroat (*Geothlypis trichas sinuosa*) have been observed in the recent past.[4]

Migratory Birds. The federal Migratory Bird Treaty Act and various sections of the Fish and Game Code prohibit the taking, hunting, killing, selling, purchasing, etc., of migratory birds, parts

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[1]Hercules Bayfront Project Draft EIR, November 2010, p. 6-10; Hercules General Plan *Open Space/Conservation Element*, Amended, pp. V-15 and V-16.

[2]Hercules General Plan *Open Space/Conservation Element*, Amended, p. V-17.

[3]Review of California Natural Diversity Database (CNDDB), CNPS - Rare Plant Finder, and U.S. Fish and Wildlife Service Information for Planning and Conservation (IPaC), 9/21/17.

[4]Hercules Bayfront Project Draft EIR, pp. 6-4, and 6-10 through 6-18.

of migratory birds, and their eggs and nests. Habitat for migratory birds exists in the brush areas and in willow trees along Refugio Creek. Grassland areas in the City can provide habitat for burrowing owl and northern harrier to establish nests. Hercules Point also offers habitat for some bird species, for example San Pablo song sparrow.

Potential Jurisdictional Waters. Jurisdictional waters may exist in the City, and have in the past been identified to include portions of the Refugio Creek corridor, some areas of the City near San Pablo Bay, and near Rodeo Creek in the northeast part of the City.[1]

Habitat Conservation Plan/Natural Community Conservation Plan. There is no adopted habitat conservation plan or natural community conservation plan in Hercules or affecting Hercules.[2]

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with General Plan *Open Space & Conservation Element* Program 6b.1 (biological survey), and if necessary, would be required to comply with specific regulatory agency habitat and species requirements (e.g., CDFW, U.S. Fish and Wildlife Service [USFWS]), as appropriate. These future projects would also be required to be consistent with Program 2a.1 and Programs 3a.1 and 3a.2 (requiring permits, as necessary, from CDFW and the U.S. Army Corps of Engineers [USACOE]), Policy 4a (preventing degradation of riparian and wetland communities from urban pollutants entrained by storm runoff), Program 5a.1 (limiting public access and pedestrian pathways in order to protect tidal habitat), Policy 6c (using native plants to non-invasive species), as well as the City's Tree Removal policy (requiring replacement of trees).[3]

Impacts of Circulation Element Adoption:

a) through f) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to biological resources.

The Circulation Element Update would not substantially affect any special-status species or its habitat, or have a substantial effect on riparian habitat or other sensitive natural community. The Circulation Element Update would not adversely affect wetlands, interfere with wildlife

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[1] Hercules Bayfront Project Draft EIR, pp. 6-3 and 6-4; Hercules General Plan *Open Space/ Conservation Element*, Amended, Figure OSC-1: Watercourses and Riparian Areas.

[2] PG&E is seeking USFWS approval of the "San Francisco Bay Area Operations and Maintenance Habitat Conservation Plan," which would include PG&E rights-of-way (ROWs), buffers around activity areas, and lands owned by PG&E and/or subject to PG&E easements in the nine-county San Francisco Bay Area, including Hercules. Whether or not any circulation system improvement project recommended in the Circulation Element Update would occur on land subject to this proposed HCP is too speculative for analysis at this time.

[3] City of Hercules Municipal Code, Title 4, Chapter 15, Section 4-15.05; Hercules General Plan *Open Space/Conservation Element*, Amended, pp. V-26 through V-28.

movement or wildlife corridors, or impede the use of native wildlife nursery sites. The Circulation Element Update would not conflict with local policies or ordinances protecting biological resources, nor would it conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

Discussion

Historic Resources. Historic resources include, but are not limited to, buildings, structures, roads, features, and/or objects that are listed in or determined to be eligible for listing in the California Register of Historic Resources, listed in a Local Register, and/or designated as historically significant by a Lead Agency. A cultural resources records search at the California Historic Resources Information System-Northwest Information Center at Sonoma State University (CHRIS-NWIC) was requested by MIG on May 30, 2017. The results of the records search indicate that within the City, there are more than 40 historic resources.[1]

Archaeological Resources. Archaeological resources are the physical remains of past human activities and can be either prehistoric or historic in origin. Archaeological sites are locations that contain evidence of human activity, such as food remains, waste from tool-making or tools, modification of rock surfaces, concentrations or alignments of stones, unusual discoloration or accumulation of soil, or human skeletal remains. A cultural resources records search at the California Historic Resources Information System-Northwest Information Center at Sonoma State University (CHRIS-NWIC) was requested by MIG on May 30, 2017. The results of the

[1]Northwest Information Center, Cultural Resources Record Search in Support of the Hercules Circulation Element Update, May 30, 2017.

records search indicate that within the City, three prehistoric and two historic archaeological resources located within the City.[1]

In addition, a Sacred Lands File search for the City was requested through the Native American Heritage Commission (NAHC) on May 5, 2017 by MIG. The results of the Sacred Lands File (SLF) search revealed no known "Native American cultural resources" in the City.[2] Also, follow-up correspondence with six Native American tribes identified by the NAHC as having affiliation with the City was conducted on May 10, 2017. As of October 4, 2017, no responses have been received.

Paleontological Resources. An archival research and literature review of paleontological resources in the City was conducted by MIG on May 5, 2017. The results of this investigation found that in 2005, invertebrate marine fossils and terrestrial vertebrate fossils from the San Pablo Group sediments and from the Montezuma Formations were recovered during construction of the Victoria by the Bay Project, in the City of Hercules.[3] A geological review of the City shows that excavations or construction activities that extend down into the older Quaternary deposits of the Refugio Valley could uncover fossil vertebrate specimens,[4] which suggests a moderate sensitivity level for paleontological resources in the City.[5]

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with General Plan *Open Space & Conservation Element* Objective 12 (protecting and preserving important historic and prehistoric resources), Policy 12a (regarding temporarily halting excavation activities to determine the importance of the resource), and Program 12a.1 (regarding archival research and in-field testing to identify areas that may have been used by Native American populations). These future projects would also need to comply with City Standard Plans/Design Standards/Standard Specifications (regarding cultural resources); and in addition, in the event that human remains are discovered, State Health and Safety Code section 7050.5 (pertaining to discovery of human remains) would apply.[6]

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[1]Northwest Information Center, Cultural Resources Record Search in Support of the Hercules Circulation Element Update, May 30, 2017.

[2]Gayle Totton, Native American Heritage Commission, Sacred Lands File Search in Support of the Hercules Circulation Element Update, May 5, 2017.

[3]LSA Associates, "Paleontological Mitigation for the Victoria by the Bay Project, Hercules, Contra Costa County, California, " October 2005.

[4]RBF Consulting, Draft Environmental Impact Report, Hercules New Town Center, September 2008.

[5]Personal communication with Samuel McLeod, Natural History Museum of Los Angeles County's Vertebrate Paleontological Section, regarding paleontological resource sensitivity in Quaternary deposits; Christopher Purtell, MIG Senior Archaeologist, May 5, 2017.

[6]Hercules General Plan *Open Space/Conservation Element*, Amended, pp. V-33 and V-34; City of Hercules Public Works Department, 2002 Standard Plans/Design Standards/Standard Specifications, Section 2.23.9 - Cultural Resources.

Impacts of Circulation Element Adoption:

a) through d) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to historical, archaeological and/or cultural, or paleontological resources, including human remains.

The Circulation Element contains the following environmental implementation program to address paleontological resource issues for any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, as applicable:

Potential for Disturbance of Paleontological Resources. During the City's review process for future circulation system improvement projects, the City shall assess the possible presence of paleontological resources, and may require a range of measures to protect such resources, such as an education program combined with monitoring by a qualified paleontologist. If subsurface paleontological resources are encountered, a paleontologist representing the City will determine, and the City will require, appropriate steps to recover and catalog any such specimens.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.6 Geology and Soils

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion

The City of Hercules is located within the Coast Range geomorphic province that encompasses the San Francisco Bay region. The Coast Range geomorphic province features northwest trending mountain ranges, broad basins, and narrow valleys that roughly parallel major geologic structures and the coastline of central California. The City is generally flat around Refugio Valley, but rises gently in the east; the bayside areas west of I-80 have small hill areas.

Soil types in Hercules include Tierra loam, Clear Lake clay, Los Osos clay loam, Sehorn clay, and smaller amounts of other types (Millsholm loam, Diablo Clay, Conejo clay loam, etc.). Tierra loam, a moderately well drained soil type, is formed in material weathered from sedimentary terrace deposits. Runoff is medium to rapid, and the hazard of erosion is moderate to high where the soil is bare. Clear Lake clay is a poorly drained soil formed in fine-textured alluvium, with very slow runoff and no hazard of erosion where the soil is exposed. Los Osos clay loam is well drained, and runoff is medium, with a moderate hazard for erosion. Sehorn clay is a well drained soil, with medium runoff; the hazard of erosion is moderate where the soil is bare.[1]

Hercules is not located in an Alquist-Priolo Earthquake Fault Zone, and no active or potentially active fault traces run through the City. However, the Hayward fault is located approximately three and a half miles to the southwest, and several other faults are also in the vicinity (San Andreas, Rodgers Creek, Concord/Green Valley, Calaveras, Greenville, Maacama, Mount Diablo, and West Napa). According to the Association of Bay Area Governments (ABAG): "The Hayward fault has the greatest likelihood of rupturing in the next 30 years of all the faults in the

[1]U.S. Department of Agriculture. Natural Resources Conservation Service, Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed 8/31/17; U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Contra Costa County, California, 1977.

Bay Area, at 31 percent of a magnitude 6.7 or higher. This earthquake will cause damage to roads and utilities, and many homes will be uninhabitable."[1]

The Hercules General Plan *Safety Element* states that, "There are four major hazards associated with earthquakes. These are fault surface rupture, ground shaking, ground failure, and flooding due to earthquake-generated waves or dam failures. …[F]ailure of reservoir dams themselves could directly result from a major earthquake. However, the City of Hercules does not lie in the path of inundation from any reservoir."[2]

The nature of any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would not require the construction of any wastewater disposal systems.

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with City Standard Plans/Design Standards/Standard Specifications[3] (submitting a geotechnical report for review and approval by the City Engineering), and would be required to follow any recommendations made by the geotechnical engineer, subject to City review and approval. Also, these future projects would be required to submit an erosion control plan consistent with City best management practices and subject to City review and approval.[4]

Impacts of Circulation Element Adoption:

a) through e) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to risks to people or property associated with seismic hazards, nor would the Circulation Element Update result in substantial soil erosion. Likewise, adoption of the Circulation Element would not result in impacts related to soils susceptible to landslide, lateral spreading, subsidence, liquefaction or collapse, and would not require the construction of any wastewater disposal systems.

Mitigation: No impacts have been identified; no mitigation measures are required.

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[1]Association of Bay Area Governments (ABAG), Resilience Program, "Contra Costa County Earthquake Hazard," http://resilience.abag.ca.gov/earthquakes/contracosta/, accessed 9/8/17.

[2]Hercules General Plan, *Safety Element*, September 22, 1998, amended April 14, 2015; pp. VI-4 through VI-6.

[3]City of Hercules Public Works Department, 2002 Standard Plans/Design Standards/Standard Specifications, Section 3.04 - Plan Preparation.

[4]City of Hercules Municipal Code, Title 5, Chapter 8, Section 5-8.090.

2.4.7 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Discussion

Greenhouse gas emissions (GHGs) in the State are subject to the California Air Resources Board (CARB) "Scoping Plan," which contains strategies to reduce GHG emissions in California. In addition, the Sustainable Communities and Climate Protection Act (SB 375) was adopted in 2008 to connect GHG emission reductions targets for the transportation sector to local land use decisions that affect travel behavior, and specifically required CARB to establish GHG emissions reduction targets for the 18 regions in California managed by a metropolitan planning organization (MPO). In response, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) adopted Plan Bay Area 2013. The Plan includes two main elements: the Sustainable Communities Strategy (SCS) and the Regional Transportation Plan (RTP). An update to the plan (Plan Bay Area 2040) has recently been adopted. Plan Bay Area 2040 projects household and employment growth in the Bay Area over the next 24 years, providing a roadmap for accommodating expected growth, and connecting it to a transportation strategy focused on key Bay Area goals for the environment (e.g., State GHG reduction goals), economy, and social equity.

The BAAQMD "Spare the Air - Cool the Climate 2017 Clean Air Plan" (Clean Air Plan) includes control measures that target the largest source of GHG – transportation – and includes incentives for electric vehicle infrastructure, and for reducing emissions from trucks, school buses, and other vehicles and equipment.

Impacts of Circulation Element Adoption:

a) and b) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to greenhouse gas emissions or generation of greenhouse gases. Adoption of the Circulation Element would support the "Scoping Plan," the Clean Air Plan, and Plan Bay Area 2040, and would therefore be considered consistent with applicable plans, policies, and regulations adopted for the purpose of reducing greenhouse gas emissions.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.8 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion

Soil and/or Groundwater Contamination. The City has a long history of industrial uses, and has recognized that the storage, use, and disposal of hazardous materials from past activities could pose health threats to workers or present or future site occupants. Measures to remediate hazardous materials have been incorporated into the General Plan[1] and plans for specific projects and development have successfully reduced risks from hazardous materials.

The Department of Toxic Substance's (DTSC) EnviroStor[2] database and the State Water Resources Control Board's (State Water Board) GeoTracker[3] database list a total of 25 sites in the City. Of these 25 sites, 8 are listed as leaking underground fuel storage tanks (LUST sites), and all 8 of these LUST sites have a "Completed – Case Closed" status. There are 3 permitted underground storage tanks (which are located at 1540 Sycamore Avenue, 828 Willow Avenue, and 3900 San Pablo Avenue). There are 3 sites with "Completed – Case Closed" status (2 are listed "Cleanup Program Site" and the other is "Land Disposal Site"). Also, there is 1 site with "Information Item" status; 1 site with "Non-Operating" but "Permitted" status; 4 sites with "Certified" status (having complied with DTSC remediation requirements); 2 sites with "No Action Required" status; 1 site with "No Further Action Required" status; and 2 sites with "Certified/Operation & Maintenance" status.

These last 2 sites (Hercules Inc., at the corner of San Pablo & Sycamore Avenue; and Hercules Properties Ltd, at 560 Railroad Avenue) are also included on the State's "Cortese List"[4] and have land use restrictions that run with the land. Also, according to the Environmental Protection Agency (EPA), there are no "superfund" sites in the City.[5]

Schools. There are four schools located in the City, but no listed hazardous waste site is within one-quarter mile of a school.

Airports and Airstrips. There are no public airports within two miles of the City, nor is the City within the airport influence area designated in the applicable land use plan for the nearest public airports (Metropolitan Oakland International Airport is approximately 19 miles away, and Buchanan Airport in Concord is approximately 9 miles away). There are no private airstrips in

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[1]Hercules General Plan, *Hazardous Waste Management Plan Element*, December 1990.

[2]EnviroStor is an on-line research and Geographic Information System tool that allows a search for information on investigation, cleanup, permitting, and/or corrective actions that are planned, being conducted, or have been completed under DTSC's oversight. https://www.envirostor.dtsc.ca.gov/public/; accessed 9/21/17.

[3]GeoTracker is an on-line research tool similar to EnviroStor, but it collects information from different databases, such as State and local agency lists of Leaking Underground Storage Tanks (LUSTs). https://geotracker.waterboards.ca.gov/; accessed 9/18/17.

[4]The "Cortese list" is a collection of databases compiled pursuant to the California Government Code that identify hazardous waste facilities, waste disposal sites, contaminated properties, and other related sites.

[5]U.S. Environmental Protection Agency, https://www.epa.gov/superfund/search-superfund-sites-where-you-live; accessed 9/18/17.

the vicinity of the City. The helipads at Children's Hospital (Oakland) and at John Muir Medical Center (Walnut Creek) are both approximately 12 miles away.[1]

Emergency Evacuation. The City of Hercules has an Emergency Operation Plan to provide effective preparation in the event of an emergency. The City is divided into seven zones, each with designated emergency evacuation routes and alternate routes, and also emergency shelters.[2]

Wildland Fire Hazard. The City of Hercules is designated as a Local Responsibility Area, non-Very High Fire Hazard Severity Zone, based on the 2009 CAL FIRE map for Contra Costa County.[3] According to the General Plan *Safety Element*, "The major fire hazard areas within Hercules are the open space areas directly adjacent to homes. The open spaces include brush and grass covered hills and forested areas."[4]

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with City Standard Plans/Design Standards/Standard Specifications (providing information on hazardous substances/materials to be used and procedures for accidental contaminant discovery; storage, use, transport, and disposal of hazardous materials; and traffic control/construction staging), which would be subject to review and approval by the City prior to construction activities.[5]

Impacts of Circulation Element Adoption:

a) through h) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to routine transport, use, or disposal of hazardous materials, or the release of hazardous materials, including hazardous materials use near schools. Also, adoption of the Circulation Element would not result in impacts related to sites on the "Cortese List," and would have no impact related to airport safety hazards or wildland fire risk

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[1]Federal Aviation Administration, Airport Data & Contact Information, https://www.faa.gov/airports/airport_safety/airportdata_5010/; accessed 9/18/17.

[2]City of Hercules website, http://www.ci.hercules.ca.us/index.aspx?page=122; accessed 9/20/17.

[3]The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for identifying areas of very high fire hazard severity zones (VHFHSZ) within Local Responsibility Areas (LRA). CAL FIRE, Contra Costa County FHSZ Map, http://www.fire.ca.gov/fire_prevention/fhsz_maps_contracosta; accessed 9/20/19.

[4]City of Hercules General Plan, *Safety Element*, September 22, 1998, amended April 14, 2015, p. 4.

[5]City of Hercules Public Works Department, 2002 Standard Plans/Design Standards/Standard Specifications, Section 2.11.4 - Potential Hazardous Waste, Section 2.11.5 - Material Safety Data Sheets (MSDS), and Section 2.12 - Traffic Control.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.9 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

Citywide Drainage and Hydrology. Hercules is located primarily in the Refugio Valley along the western shore of San Pablo Bay, on the northeast side of the San Francisco Bay Area. The City is bounded by hills to the northeast and east, and by Pinole Ridge to the south.[1]

Refugio Creek is the main drainage basin in the City, and flows into Hercules from the southeast. The creek's largest tributary is Ohlone Creek, to the southwest. Pinole and Rodeo Creeks are adjacent to the northern and southern City boundaries and drain the neighboring communities of Pinole and Rodeo; the creeks drain relatively small portions of the City.[2]

Neighboring Pinole Creek, near the City's southwestern border with the City of Pinole, and Rodeo Creek, near the City's northeastern border with the community of Rodeo, also drain to the Bay.

Drainage in the area generally trends to the northwest, with storm water flowing from urbanized areas towards San Pablo Bay. Storm water flows are conveyed by a combination of regional facilities maintained by the Contra Costa County Flood Control District and also by localized drainage facilities. Generally, developed areas of Hercules are served by drainage facilities while drainage on vacant sites is by sheet flow to local streets.[3]

Water Quality. Surface water quality is largely dependent on the purity of storm water runoff. Accidental spills or storage and disposal of chemicals (solvents, fuels, waste materials) may result in contamination of surface runoff that can enter the City's municipal storm drainage system and local creeks. In addition, streets are collection areas for pollutants that can contaminate runoff and receiving waters. Local soil erosion and motor vehicle emissions can also deposit pollutants on street surfaces, which can then be carried by surface runoff to storm drains.

Soil erosion can also occur in exposed and steep areas. Site clearing, excavation, and cut-and-fill operations associated with construction can temporarily expose land areas to erosion, which can lead to an increase in suspended solids concentrations (turbidity) in the storm drain system, creeks, and the Bay.

The State Water Resources Control Board is required to report on the condition of surface water quality pursuant to the Federal Clean Water Act. Water bodies with pollutants that exceed protective water quality standards are placed on the State's 303(d) List of Water Quality Limited Segments (also known as the list of impaired water bodies), which identifies the pollutant causing impairment and establishes a schedule for developing a control plan to address the impairment, called a Total Maximum Daily Load (TMDL). Both Rodeo Creek and Pinole Creek are classified on the State's 303(d) list under the Category 4A Criteria for diazinon, and this

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[1]ESA, City of Hercules General Plan Land Use and Circulation Elements Update and Redevelopment Plan Amendments Environmental Impact Report, Volume I: EIR Text, June 9, 1995, p. IV.I-1.

[2]Hercules General Plan, *Safety Element*, September 22, 1998, amended April 14, 2015, p. 7.

[3]MIG, Inc., City of Hercules Housing Element Update Initial Study and Negative Declaration, January 16, 2015, p. 57.

issue is being addressed by a U.S. EPA-approved TMDL.[1] Refugio Creek is not on the State's 303(d) List.

Flooding and Flood-Prone Areas. Based on FEMA National Flood Insurance Program maps,[2] most of the City is located in Zone X ("Areas Determined to be Outside the 0.2% Annual Chance Floodplain"), though two areas are designated "Other Areas of Flood Hazard (0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile)." One is a residential area bounded by Sycamore Avenue and North and South Front Streets; the other is an undeveloped area located southwest of Santa Fe and Railroad Avenue. There are also small areas ("pockets") near the shoreline and/or creeks in Special Flood Hazard Zone AE.

Refugio Creek is generally designated Special Flood Hazard Zone AE ("Regulatory Floodway") with some portions designated Zone AO ("Floodway contained in structure"), although two of its branches are designated AE ("Regulatory Floodway – Flood discharge contained in structure"), with some parts of the west branch designated Zone A.

Tsunamis and Other Flooding Hazards. Neither the Hercules General Plan nor the General Plan Update EIR identify any potential impacts due to tsunamis (earthquake-generated ocean waves), primarily due to the rarity of tsunamis in San Pablo Bay.[3] However, the shoreline area has been identified by the Association of Bay Area Governments (ABAG) as being susceptible to tsunami effects.[4] Also, the City is not in a dam inundation area, nor are there any levees that pose of risk from failure.[5] In addition, there are no bodies of water large enough for a seiche to occur, nor is there any evidence of past mudflows in the City.

Groundwater. The City does not use groundwater for its water supply.

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with County storm water runoff requirements and General Plan *Open Space & Conservation Element* Program 4a.1 (regarding NPDES regulations to minimize urban pollutants), City best management practices for storm water management and erosion control, and City Standard Plans/Design Standards/Standard Specifications (regarding storm water runoff and pollution

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[1]State Regional Water Quality Control Board, 2012 California List of Water Quality Limited Segments--Category 4A, http://www.waterboards.ca.gov/water_issues/programs/tmdl/2012state_ir_reports/category4a_report.shtml; accessed 9/22/17.

[2]FEMA, Flood Map Service Center, https://msc.fema.gov/portal, maps 060130042H, 060130043H, 060130044H, and 060130063H; accessed 9/12/17.

[3]ESA, City of Hercules General Plan Land Use and Circulation Elements Update and Redevelopment Plan Amendments Environmental Impact Report, Volume I: EIR Text, June 9, 1995, p. IV.I-1; Hercules General Plan, *Safety Element*, p. VI-6.

[4]ABAG Resilience Program, http://resilience.abag.ca.gov/tsunamis/; accessed 9/1/17.

[5]Contra Costa County, Hazard Mitigation Plan Update, Volume 1: Planning-Area-Wide Elements, May 2011, pp. 10-4, 10-14, and 13-26.

prevention).[1] Also, these future projects would be required to follow established City, State, and federal floodplain management protocols.

Impacts of Circulation Element Adoption:

a) through j) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to water quality impacts, erosion, drainage patterns, and storm water runoff and pollution. Also, adoption of the Circulation Element would not result in flood flow hazards; or impacts associated with tsunami, seiche, or mudflows; or risk related to including housing within a 100-year floodplain.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.10 Land Use and Planning

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

Hercules is a suburban community, with the largest major land use category designated for single-family detached homes, and most of its land area located east of I-80. Newer housing development has also been proceeding of I-80 as sites from former industrial uses have

[1] Hercules General Plan *Open Space/Conservation Element*, Amended, p. V-27; City of Hercules Municipal Code, Title 5, Chapter 8, Section 5-8.090; City of Hercules Public Works Department, 2002 Standard Plans/Design Standards/Standard Specifications, Section 18 - Storm Drainage and Water Quality.

become available for higher density and mixed-use projects. Commercial uses are concentrated along the two east-west running roads of Sycamore Avenue and Willow Avenue near the I-80 Hercules off-ramps. Research and development/office uses exist in the northwest portion of the city. In addition, the City has about 950 acres of open space areas and trails distributed throughout the community. The open space areas and city parks (two community and five neighborhood parks) account for approximately one-third of the City's total land area.

Interstate 80 (I-80) divides the City, running generally north-south, and connects to State Route 4 (Hwy 4) north of Willow Avenue. Hwy 4 runs generally east-west through the City, and west of I-80 becomes John Muir Parkway. Willow Avenue runs underneath I-80 to connect to Sycamore Avenue.

Habitat Conservation Plan/Natural Community Conservation Plan. There is no adopted habitat conservation plan or natural community conservation plan in Hercules or affecting Hercules.[1]

Impacts of Circulation Element Adoption:

a) through c) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to physically dividing an established community, nor would it conflict with any adopted land use or other related plans, policies, or regulations.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.11 Mineral Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

[1]PG&E is seeking USFWS approval of the "San Francisco Bay Area Operations and Maintenance Habitat Conservation Plan," which would include PG&E rights-of-way (ROWs), buffers around activity areas, and lands owned by PG&E and/or subject to PG&E easements in the nine-county San Francisco Bay Area, including Hercules. Whether or not any circulation system improvement project recommended in the Circulation Element Update would occur on land subject to this proposed HCP is too speculative for analysis at this time.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

Areas subject to California mineral land classification studies are divided into one of four categories that reflect mineral potential, known as mineral resource zones, or "MRZ." Lands classified MRZ-1 are areas where geologic information indicates that no significant mineral deposits are present. Lands classified MRZ-2 are areas that contain identified mineral resources. Lands classified MRZ-3 are areas of undetermined mineral resource significance. Lands classified MRZ-4 are areas of unknown mineral resource potential.

According to the Hercules General Plan, and based on California Division of Mines and Geology Mineral Land Classification mapping, the City contains areas designated MRZ-1, MRZ-3, and MRZ-4. There are no areas designated MRZ-2. The MRZ-3 areas are generally located in hilly areas east of I-80, both north and south of Hwy 4, and also to the north of John Muir Parkway on the west side of I-80. No data exist that indicate the value of potential mineral resources in those areas, and the City has determined that existing and planned land uses would generally be of greater benefit to the community and region.[1]

Impacts of Circulation Element Adoption:

a) and b) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to mineral resources.

Mitigation: No impacts have been identified; no mitigation measures are required.

[1]Hercules General Plan, *Open Space/Conservation Element*, September 22, 1998, amended April 14, 2015; California Department of Conservation, Division of Mines and Geology, Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Special Report 146: Part II, 1987; Mineral Resource Zones and Resource Sectors, Contra Costa County, South San Francisco Bay Production-Consumption Region, https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc, accessed 9/19/17.

2.4.12 Noise

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

According to the General Plan *Noise Element,* traffic is the primary noise source in Hercules, with I-80 the main contributor.[1] The *Noise Element* classifies a "major noise source" as generating a noise level of 60 dBA L_{dn} or greater at distances beyond 300 feet. I-80, Hwy 4 (west of Franklin Canyon, and San Pablo Avenue between Hwy 4 and Sycamore Avenue), and the two railroad lines are considered major noise sources in the City.

A "moderate noise source" is classified as generating a noise level of 60 dBA L_{dn} or greater at distances between 150 and 300 feet. Hwy 4 east of Franklin Canyon, San Pablo Avenue east of Hwy 4 and west of Sycamore Avenue, Refugio Valley Road west of Redwood, Sycamore Avenue, Willow Avenue, and the railroad west of Sycamore are considered moderate noise sources in the City.

[1]Hercules General Plan *Noise Element*, p. 7.

A “minor noise source” would generate a noise level of 60 dBA L_{dn} or greater at distances between 50 and 150 feet. Hercules Avenue, Pheasant Way, Redwood, Lupine, and Refugio Valley Road east of Redwood are considered minor noise sources in the City.

Sound is typically measured using the decibel scale (dB), which calculates sound levels on a logarithmic basis. An increase of 10 dB represents a tenfold increase in acoustic energy, while 20 dBs is 100 times more intense, and so on. In general, the relationship between the subjective noisiness (or loudness) of a sound and its amplitude (or intensity) with each 10 dB increase in sound level is perceived as approximately a doubling of loudness.

Sound can be characterized using the “A-weighted sound level,” referred to as dBA. This scale gives greater weight to the frequencies of sound to which the human ear is generally most sensitive. For instance, using the A-weighted scale, a sound of 60 dBA is perceived as twice as loud as a sound of 50 dBA. In a quiet environment, an increase of 3 dB is usually perceptible, however, in a noise environment such as a busy street, a noise increase of less than 3 dB is usually not perceptible, and an increase of 5 dB is usually perceptible. By way of comparison, normal human speech is in the range from 50 to 65 dBA. Generally, as environmental noise exceeds 50 dBA, it becomes intrusive; above 65 dBA, noise becomes excessive. Nighttime activities, including sleep, are more sensitive to noise and are considered affected over a range of 40 to 55 dBA.

Sound is transmitted as pressure waves, which dissipate with distance and can be absorbed by the surrounding environment. Theoretically, sound levels decrease (attenuate) by 6 dB with each doubling of distance from the source. Sound levels can be affected by environmental factors like ground cover (asphalt pavement vs. grass or trees), atmospheric absorption, and barriers. Traffic noise generally attenuates by 3 dB with each doubling of distance from a roadway. Outdoor noise is also attenuated by the building envelope so that sound levels inside a residence are from 10 to 20 dB lower than outside, depending mainly on whether windows are open for ventilation or not.

When more than one point source contributes to the sound pressure level, the overall sound level is determined by combining the contributions of each source. But because decibels are logarithmic units, they cannot be directly added or subtracted. Under the dB scale, a doubling of sound energy corresponds to a 3 dB increase in noise levels. For example, if one noise source produces a sound level of 70 dB, two of the same sources would combine to produce a sound level of 73 dB, not 140 dB.

There are no public airports within two miles of the City, nor is the City within the airport influence area designated in the applicable land use plan for the nearest public airports (Metropolitan Oakland International Airport is approximately 19 miles away, and Buchanan Airport in Concord is approximately 9 miles away). There are no private airstrips in the vicinity of the City. The helipads at Children's Hospital (Oakland) and at John Muir Medical Center (Walnut Creek) are both approximately 12 miles away.[1]

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with

[1]Federal Aviation Administration, Airport Data & Contact Information, https://www.faa.gov/airports/airport_safety/airportdata_5010/; accessed 9/18/17.

General Plan Noise Element Policy 6 (pertaining to construction noise) and City Standard Plans/Design Standards/Standard Specifications (regarding noise controls).[1]

Impacts of Circulation Element Adoption:

a) through f) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to temporary or permanent noise or groundborne vibration.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.13 Population and Housing

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

In 2015, pursuant to State law, the City adopted an updated Housing Element (Housing Element 2015-2023), which explained City housing goals and how the City intends to meet them. The Housing Element does not propose changes to other elements of the General Plan, nor does it or propose any rezoning of properties, except to comply with AB 162 (flood hazards) and SB 1241 (fire hazards).

The Circulation Element Update is intended to be consistent with all other elements of the City's General Plan. In addition, adoption of the Circulation Element would not result in displacement of persons or housing.

[1]Hercules General Plan *Noise Element*, pp. 24-25; City of Hercules Public Works Department, 2002 Standard Plans/Design Standards/Standard Specifications, Section 2.23.2 - Noise Control.

Impacts of Circulation Element Adoption:

a) through c) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to population and housing.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.14 Public Services

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion

Fire protection and emergency medical services for the City are provided by the Rodeo-Hercules Fire Protection District (RHFD), which also serves the unincorporated community of Rodeo. RHFD has two fire stations: Rodeo Station #75 at 326 Third Street in Rodeo; and Hercules Station #76 at 1680 Refugio Valley Road in Hercules. The RHFD has a staff of 23 firefighters (including eight cross-trained as paramedics), and five reserve firefighters.

Police services for the City are provided by the Hercules Police Department, which is located at 111 Civic Drive in Hercules. The police department includes 21 sworn and 3 non-sworn staff. Additionally, the Police Department houses the Emergency Operations Division.

Hercules schools include Ohlone Elementary School, Lupine Hills Elementary School, and Hanna Ranch Elementary School (all K-5); Hercules Middle School (6-8); and Hercules High School (9-12).

The Hercules Library is located at 109 Civic Drive in Hercules, and has two meeting rooms, three study rooms, a teen room, gardens, a children's story area, a library bookstore, and a reading area with a fireplace. The City also operates the Hercules Senior Center and Hercules Community Center.

Impacts of Circulation Element Adoption:

a i) through a v) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to public services (fire protection/EMS, police, school, and/or library and community services).

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.15 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

The City of Hercules operates the following parks: Refugio Valley Park, Ohlone Park and Community Garden, Woodfield Park and tennis courts, Foxboro Park and tennis courts, Frog Pad Park, Duck Pond Park, Railroad Park, Shoreline Park, Hanna Ranch Park, Beechnut Mini-Park, and Bayside Park. In addition, park facilities in the City also include the Hercules Swim Center and the Ohlone Dog Park. The East Bay Regional Park District has several regional

parks near Hercules. The San Francisco Bay Trail passes through part of Hercules, with other extensions being planned for the future.

Impacts of Circulation Element Adoption:

a) and b) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to recreational resources.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.16 Transportation/Traffic

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Discussion

As described above under section 3.1, the City's roadway network is based on connecting the residential communities to the downtown and waterfront commercial areas as well as to the regional connectors: I-80, Hwy 4, and San Pablo Avenue. These regional connectors represent the only routes into or out of Hercules by motor vehicle. Because of this limited regional access, the majority of regional and commute traffic tends to concentrate at the I-80 and Hwy 4 interchange, but also can become congested at the intersections of San Pablo Avenue/ Sycamore Avenue and Sycamore Avenue/Willow Avenue.

During weekday peak commute periods, congestion at these intersections increases delay for residents and visitors, which can frustrate drivers and induce more aggressive and riskier driving behavior that generally increases the collision rate and other accidents.

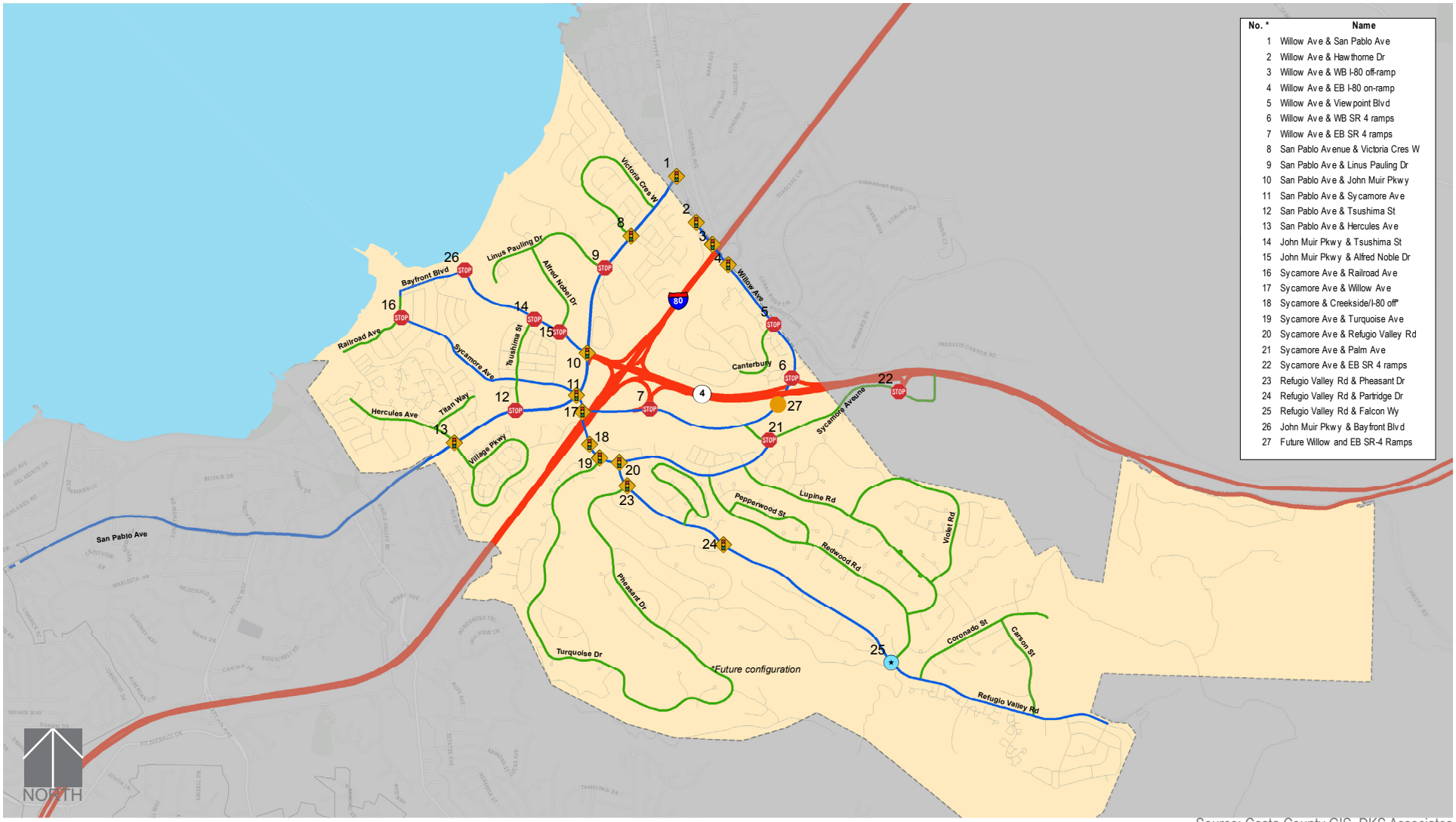
In preparing the Circulation Element Update, DKS Associates, the City's transportation consultants, evaluated 25 intersections. These intersections are shown in Figure 9 and listed in Table 2, along with existing level of service (LOS) information.

LOS indicates the degree of congestion that occurs during peak travel periods, and is the principal measure of roadway and intersection performance. LOS ratings range from "A," representing free-flow conditions, to "F," representing extremely long delays. LOS D is typically considered acceptable for a peak hour in cities and towns. LOS E is approaching capacity and LOS F represents conditions at or above capacity.

The City has established LOS D as the desired level of service for "Basic Routes," which include all arterials, collectors, and local roads that are not Regional Routes (with the exception of Collector Roads operating at worse than LOS D but do not meet a Caltrans signal warrant). In addition, the West County Action Plan has defined the following standards for Regional Routes within the City limits:

- I-80: Delay Index of 3.0 or less[1]
- I-80: HOV lane usage 10% greater than 2013 usage
- Hwy 4: Delay Index of 2.0 or less
- San Pablo Avenue: LOS of "E" for signalized intersections. (Unsignalized intersections on San Pablo Avenue are subject to the LOS standard for the intersecting roadway.)

[1]The Delay Index measures the delay experienced by motorists on a roadway segment during a peak hour in a single direction, and is calculated by comparing the time it takes to travel a segment of road during congested conditions with the time it takes to travel the same segment during uncongested, free-flow conditions. For example, a roadway segment taking 20 minutes to traverse during congested conditions and 10 minutes during free-flow conditions would have a delay index of 2.0.



Source: Costa County GIS, DKS Associates

Stop controlled
Signalized
Signalized (Potential Future Interchange)
Roundabout

Figure 9. Study Intersections

Table 2
INTERSECTION LEVELS OF SERVICE--EXISTING CONDITION AND FUTURE 2040 SCENARIO

ID # (Fig. 9)	Intersection Name	Existing Condition					Future 2040 Scenario [1]				
		Control Type	AM Peak Hour		PM Peak Hour		Control Type	AM Peak Hour		PM Peak Hour	
			LOS[2]	Delay[3]	LOS[2]	Delay[3]		LOS[2]	Delay[3]	LOS[2]	Delay[3]
1	Willow Ave & San Pablo Ave	Signalized	B	14.0	B	14.6	Signalized	C	20.1	B	16.9
2	Willow Ave & Hawthorne Dr	Signalized	B	11.2	A	8.3	Signalized	A	8.7	A	7.8
3	Willow Ave & WB I-80 off-ramp	Signalized	A	7.4	A	6.3	Signalized	A	7.7	A	7.0
4	Willow Ave & EB I-80 on-ramp	Signalized	B	12.3	B	17.3	Signalized	B	12.8	C	21.3
5	Willow Ave & Viewpoint Blvd	Stop (all way)	C	16.3	B	12.7	Signalized	A	6.0	A	16.9
6	Willow Ave & WB Hwy 4 off-ramp	Stop (all way)	B	11.1	B	12.7	Signalized	A	6.2	A	6.8
7	Willow Ave & EB Hwy 4 ramps	Stop (all way)	A	9.2	B	10.1	(Intersection replaced by #27)				
8	San Pablo Avenue & Victoria Cres W	Signalized	B	12.9	B	17.0	Signalized	B	13.1	B	10.0
9	San Pablo Ave & Linus Pauling Dr	Stop (2 way)	E	35.3	B	14.6	Signalized	A	10.0	A	9.2
10	San Pablo Ave & John Muir Pkwy	Signalized	D	37.9	D	37.4	Signalized	D	37.8	E	63.8
11	San Pablo Ave & Sycamore Ave	Signalized	C	30.4	C	31.7	Signalized	E	63.1	E	62.8
12	San Pablo Ave & Tsushima St	Stop (2 way)	B	12.5	B	11.0	Signalized	C	20.4	C	28.2
13	San Pablo Ave & Hercules Ave	Signalized	C	22.6	C	23.3	Signalized	D	54.8	C	28.1
14	John Muir Pkwy & Tsushima St	Uncontrolled	B	10.4	A	8.5	Stop (minor street)	C	15.2	A	9.2
15	John Muir Pkwy & Alfred Noble Dr	Stop (2 way)	B	11.7	B	11.4	Stop (minor street)	C	15.5	C	16.5
16	Sycamore Ave & Railroad Ave	Stop (all way)	A	7.3	A	7.2	Stop (all way)	A	8.2	A	8.8
17	Sycamore Ave & Willow Ave	Signalized	C	25.6	C	28.4	Signalized	C	29.2	C	29.0
18	Sycamore Ave & Creekside Ave	Signalized	A	9.9	B	14.8	Signalized	B	17.5	D	46.6
19	Sycamore Ave & Turquoise Ave	Signalized	B	17.6	B	14.2	Signalized	B	19.1	B	14.8
20	Sycamore Ave & Refugio Valley Rd	Signalized	C	25.9	C	20.6	Signalized	C	23.6	C	23.2
21	Sycamore Ave & Palm Ave	Stop (all way)	C	20.5	B	13.8	Signalized	A	3.7	A	2.9
22	Sycamore Ave & EB Hwy 4 ramps	Stop (all way)	B	12.9	A	9.0	Stop (all way)	A	9.1	A	8.7
23	Refugio Valley Rd & Pheasant Dr	Signalized	B	15.7	B	11.3	Signalized	B	16.6	B	11.4
24	Refugio Valley Rd & Partridge Dr	Signalized	A	7.2	A	5.2	Signalized	A	6.7	A	5.1
25	Refugio Valley Rd & Falcon Wy	Roundabout	B	11.6	A	6.4	Roundabout	B	12.9	A	6.5
26	John Muir Pkwy & Bayfront Blvd	(Intersection not open at time of data collection)					Stop (all way)	A	8.9	B	9.0
27	Willow/Palm Ave & EB Hwy 4 ramps	(Planned future intersection.)					Signalized	A	3.6	A	8.8

SOURCE: DKS Associates, 2017.

(1) With planned improvements
(2) Level of Service
(3) Average delay per vehicle for signalized intersections; worst approach delay for stop-controlled intersections

LOS for each intersection was estimated for the average weekday peak hour condition, based on traffic counts taken in 2016, which were then run through a traffic model to determine the actual LOS. Table 2 also shows the estimated peak hour LOS for the future 2040 scenario, which includes a total of 26 intersections; there are 26 future 2040 scenario intersections instead of 25 existing intersections because one intersection was not open at the time of the counts (#26), and one existing intersection (#7) is planned to be replaced by a new one (#27).[1]

The future 2040 scenario was determined for this traffic analysis based on forecasts of future travel patterns derived from the Contra Costa Transportation Authority's (CCTA) regional travel model. In addition, because a number of project proposals have been approved and developed since the 1998 General Plan Land Use Element update, the transportation network improvements required to mitigate impacts specified in the environmental documents for those projects have been included in the future 2040 scenario.

Circulation Element Update policies have been deliberately formulated to be consistent with the County and regional transportation plans and objectives, as well as adopted policies, plans, and programs regarding public transit, bicycle, and pedestrian facilities.

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with City Standard Plans/Design Standards/Standard Specifications[2] (regarding traffic control and construction staging). In addition, as described above, there are no public or private airports within two miles of the project site; therefore, adoption of the Circulation Element Update would have no impact related to air traffic patterns.

Impacts of Circulation Element Adoption:

a) through f) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to transportation and circulation, including non-motorized travel modes (e.g., pedestrians and bikes), safety, and emergency access.

As described above, a detailed traffic analysis[3] evaluated possible impacts of additions, deletions, and other changes made to the City's previous 1998 Circulation Element and subsequently incorporated into the 2017 Circulation Element Update. The analysis concluded that with the circulation improvements recommended in Table 1 above (same as Table 5-1 in

[1]Two intersections (John Muir Parkway & Bayfront Boulevard and Willow/Palm Avenue & EB Hwy 4 ramps) were not included in the existing condition because these intersections are future circulation improvement projects, but their estimated peak hour LOS ratings for the future 2040 scenario are included in the table.

[2]City of Hercules Public Works Department, 2002 Standard Plans/Design Standards/Standard Specifications, Section 2.12 - Traffic Control.

[3]A copy of this traffic analysis is attached to the Circulation Element Update.

the 2017 General Plan Circulation Element), all roads and other transportation facilities would meet required levels of service by the 2040 Horizon Year of the Circulation Element Update.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.17 Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? - or -	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Discussion

Tribal Cultural Resources are defined as either: (1) sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe listed, or determined to be eligible for listing, on the national, State, or local register of historic resources, or (2) resources that the lead agency (e.g., the City) chooses, in its discretion, to treat as a Tribal Cultural Resource.

As described above in section 2.4.5, Cultural Resources: (1) a records search through the California Historic Resources Information System-Northwest Information Center at Sonoma State University (CHRIS-NWIC) was requested; (2) a Sacred Lands File search through the Native American Heritage Commission (NAHC) was requested; and (3) follow-up correspondence was sent to six Native American tribes identified by the NAHC as having affiliation with the City. The results of the CHRIS-NWIC records search indicated no known

Tribal Cultural Resources in the City. The results of the Sacred Lands File search revealed no known "Native American cultural resources" in the City. And as of October 4, 2017, no responses had been received from any of the six Native American tribes contacted.

Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be required to comply with established State procedures related to tribal cultural resources.

Impacts of Circulation Element Adoption:

a) and b) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to tribal cultural resources.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.18 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

Wastewater Treatment. The Pinole-Hercules Wastewater Treatment Plant (WWTP), located at the foot of Tennant Avenue, provides wastewater treatment for the cities of Pinole and Hercules for up to 4.06 mgd (million gallons per day) dry weather flow and 10.3 mgd wet weather flow. The Regional Water Quality Control Board (RWQCB) mandated improvements to the WWTP to increase secondary treatment up to 20 mgd, and other facility modifications. The two cities are currently coordinating the WWTP upgrade efforts.[1]

Storm Water Drainage. The City's storm water system is designed to prevent flooding on streets and sidewalks by capturing flows and conveying them to the nearest storm drain, eventually to flow into San Pablo Bay. The system of underground storm water pipes is maintained by the Public Works department.[2]

Water Supplies. Water service is provided by the East Bay Municipal Utility District (EBMUD), which also provides water for other cities, jurisdictions, and unincorporated lands in Contra Costa and Alameda counties. EBMUD has water rights and contracts for up to 325 million gallons a day (mgd) from the Mokelumne River watershed, which provides approximately 90 percent of the water used by EBMUD. The remainder is supplemented by local run-off collected in EBMUD reservoirs and by water from the Sacramento River under a 2006 contract with the U.S. Bureau of Reclamation.[3]

Landfills. Solid waste service for the City is handled by Richmond Sanitary Service, a subsidiary of Republic Services, which provides residential pick-up of solid waste, recyclables, and green waste. Solid waste from Hercules is taken to the Golden Bear Materials Recovery

[1]City of Hercules web site, http://www.ci.hercules.ca.us/index.aspx?page=228; accessed 9/27/17.

[2]City of Hercules web site, http://www.ci.hercules.ca.us/index.aspx?page=133; accessed 9/27/17.

[3]East Bay Municipal Utility District, Urban Water Management Plan, 2015; pp. 6, 8, and 11.

Facility. After processing, landfill materials are transferred to the Keller Canyon Landfill in Contra Costa County, which has a remaining capacity of approximately 63 million cubic yards.[1]

Impacts of Circulation Element Adoption:

a) through g) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not result in any impact related to water or wastewater treatment facilities or capacity, storm water drainage facilities, water supplies, or solid waste disposal.

Mitigation: No impacts have been identified; no mitigation measures are required.

2.4.19 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the efforts of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

[1] CalRecycle Solid Waste Facilities Directory, http://www.calrecycle.ca.gov/SWFacilities/Directory/07-AA-0056/Document?SITESCH=07-AA-0056; Contra Costa County, Hercules Curbside - Richmond Sanitary Service, http://www.cccounty.us/depart/cd/recycle/options/v6429.htm; accessed 9/28/17; and CalRecycle Facility/Site Summary Details, http://www.calrecycle.ca.gov/SWFacilities/Directory/07-AA-0032/Detail/; accessed 9/28/17.

Discussion

a) through c) **No Impact.** The Circulation Element Update is a policy document and does not approve or allow for the implementation of any specific circulation system projects or improvements. Any future circulation system improvement projects that are brought forward, including projects that might be recommended in the Circulation Element, would be subject to their own future environmental review and would be required to comply with the laws and regulations in effect at that time. Adoption of the Circulation Element Update would not result in any physical environmental changes, as defined by CEQA, and would not degrade the quality of the environment; reduce habitat for wildlife or plant species; eliminate important examples of California history or prehistory; contribute to a cumulatively considerable environmental impact; or cause an adverse effect (directly or indirectly) on human beings.

3. APPENDICES

APPENDIX 3.1: INITIAL STUDY CONSULTANTS

MIG, Inc.
Urban and Environmental Planners

John Baas, Director of Environmental Services
Ray Pendro, Senior Project Manager
Chris Dugan, Senior Project Manager
Christopher Purtell, Senior Archaeologist
Steve Ridone, Senior Project Associate
Ivy Poisson, Environmental Planner
Phil Gleason, Environmental Analyst