CITY OF CARLSBAD
Fiscal Year 2019-20
Growth Management Plan Monitoring Report

July 1, 2019 through June 30, 2020

Carlsbad City Council

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Report prepared in cooperation with the following departments:

Community Development
Fire
Parks & Recreation
Library & Cultural Arts
Transportation
Utilities
Carlsbad Municipal Water District

INTRODUCTION

Carlsbad Municipal Code Section 21.90.130(d) requires the preparation of an annual monitoring report on the Growth Management Plan. This report satisfies this requirement by providing information regarding the status of the Carlsbad Growth Management Plan for the fiscal year covering July 1, 2019 – June 30, 2020, and to verify that the plan is continuing to accomplish its stated objectives.

GROWTH MANAGEMENT PLAN OVERVIEW

Carefully managing growth and development is critical to maintaining the City of Carlsbad's excellent quality of life. In 1986, the City Council passed a growth management ordinance, which put conditions on how growth could occur, including the requirement that new development must plan for, construct and pay for the public infrastructure and facilities necessary to serve the new development. That November, city voters passed Proposition E, which affirmed the principles of the Growth Management Program (GMP) and the residential growth caps. The ideology behind the GMP is to ensure that new development and growth does not outpace the performance standards established for public facilities such as roads, parks and emergency services. New development must be measured against the GMP standards and show that they comply with the requirements before being approved.

There are eleven performance standards identified in the GMP, which cover the following city public facilities: City Administration facilities, libraries, wastewater treatment facilities, parks, drainage, circulation, fire open space, sewer collection and water distribution systems. To ensure that established performance standards could be achieved, the GMP directed the development of financing and management plans describing how/when the public facilities will be developed. The subsections below provide additional information.

- Performance Standards

  Proposition E established broad guidelines for determining adequacy of public facilities. These guidelines are further defined in the Citywide Facilities and Improvements Plan by means of specific performance standards for each of the eleven public facilities. These public facilities, their performance standards, status, and anticipated adequacy at buildout are outlined in Table 1 below:

TABLE 1
PERFORMANCE STANDARDS

Public Facility	Performance Standard	Page
City Administrative Facilities	1,500 sq. ft. per 1,000 population must be scheduled for construction within a five-year period or prior to construction of 6,250 dwelling units, beginning at the time the need is first identified.	12
Library	800 sq. ft. (of library space) per 1,000 population must be scheduled for construction within a five-year period or prior to construction of 6,250 dwelling units, beginning at the time the need is first identified.	14
Wastewater Treatment	Sewer plant capacity is adequate for at least a five-year period.	16

Public Facility	Performance Standard	Page
Parks	3.0 acres of Community Park or Special Use Area per 1,000 population within the Park District must be scheduled for construction within a five year period beginning at the time the need is first identified. The five-year period shall not commence prior to August 22, 2017.	17
Drainage	Drainage facilities must be provided as required by the city concurrent with development.	20
Circulation	Implement a comprehensive livable streets network that serves all users of the system – vehicles, pedestrians, bicycles and public transit. Maintain LOS D or better for all modes that are subject to this multi-modal level of service (MMLOS) standard, as identified in Table 3-1 of the General Plan Mobility Element, excluding LOS exempt intersections and streets approved by the City Council.	22
Fire	No more than 1,500 dwelling units outside of a five-minute response time.	32
Open Space	Fifteen percent of the total land area in the Local Facility Management Zone (LFMZ) exclusive of environmentally constrained non-developable land must be set aside for permanent open space and must be available concurrent with development.	34
Schools	School capacity to meet projected enrollment within the Local Facility Management Zone (LFMZ) as determined by the appropriate school district must be provided prior to projected occupancy.	36
Sewer Collection System	Trunk-line capacity to meet demand, as determined by the appropriate sewer districts, must be provided concurrent with development.	37
Water Distribution System	Line capacity to meet demand as determined by the appropriate water district must be provided concurrent with development. A minimum of 10-day average storage capacity must be provided prior to any development.	39

As indicated in Table 1, the performance standards for open space and schools is based on a "Local Facility Management Zone," which is discussed in the subsection below entitled "facility and improvement plans." Also, the performance standards for city administrative facilities, library facilities, and parks are stated in terms of population. The demand for these facilities is based on each new dwelling unit built and the estimated number of new residents it adds to the city, which is determined using the average number of persons per dwelling unit. Utilizing data from the 2010 Federal Census (total population divided by total number of dwelling units), the average for Carlsbad is 2.358 persons per dwelling unit.

As of June 30, 2020, the city's population is estimated to be 112,683, which is calculated by multiplying 2.358 persons per dwelling unit by the number of dwelling units, accessory dwelling units, and commercial living units (which were counted as dwelling units in the 2010 Federal Census); in total there are 47,742 dwellings and commercial living units, as shown in Table 2 below.

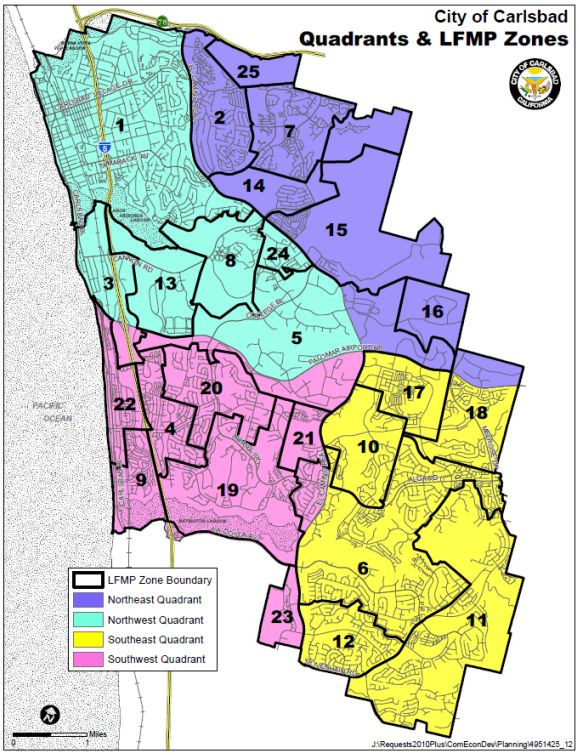
TABLE 2
FY 2019-20 POPULATION CALCULATION

Quadrant	Dwelling units[1]	Accessory dwelling units[2]	Commercial living units[3]	Total units	Population
NW	12,488	226	226	12,940	30,513
NE	7,264	46	-	7,310	17,237
SW	10,179	29	685	10,893	25,711
SE	16,426	173	-	16,599	39,222
Total	46,357	474	911	47,742	112,683

As part of the Growth Management Plan monitoring process, the persons per dwelling unit number can be adjusted in the future when updated Federal Census data is available. It should be noted that the above population estimates are for growth management facility planning purposes only and may vary from other official population estimates for Carlsbad.

- Facility and Improvement Plans

To develop a road map for how the above standards could be met, a Citywide Facilities and Improvements Plan was created in 1986 that detailed how compliance with the GMP standards will be achieved, how the necessary public facilities will be provided, and what financing mechanisms will be used for the facilities. Because planned development and growth varied throughout the city and at different levels, Carlsbad was divided into twenty-five Local Facilities Management Zones (LFMZ), which is reflected in the figure on the right. Each LFMZ was required to have an adopted Local Facilities Management Plan (LFMP) prior to any development in the LFMZ. Consistent with the GMP and the Citywide Facilities and Improvements Plan, each LFMP must describe how the LFMZ will be developed, how the required public facilities will be provided, and how those facilities will be paid for.



[1] Dwelling units represent the dwellings that are counted for purposes of the city's growth management dwelling unit limits per Proposition E (excludes accessory dwelling units and commercial living units); the number of dwelling units shown in this table are updated to June 30, 2020.
[2] Accessory dwelling units are accessory to single family dwellings and are separate dwelling units with living space, kitchen and bathroom facilities. Pursuant to state law, accessory dwelling units cannot be counted as dwellings for purposes of the city's growth management dwelling limits. However, the units are counted here to ensure all city population is considered in regard to the performance standards for administrative facilities, libraries and parks.
[3] Commercial living units, as shown in this table, are professional care facility living units that were counted as dwelling units in the 2010 Federal Census. Pursuant to city ordinance (CMC Section 21.04.093), commercial living units are not counted as dwellings for purposes of the city's growth management dwelling limits. However, the units are counted here to ensure all city population is considered in regard to the performance standards for administrative facilities, libraries and parks.

FAILURE TO MEET A PERFORMANCE STANDARD

The Growth Management Plan requires development activity to stop if a performance standard is not being met. Some performance standards apply to the city, and others apply to more specific areas, as described below:

- Administrative facilities, library, and wastewater treatment capacity are facilities that serve the entire city. Their adequacy in meeting the performance standard is analyzed by considering the cumulative impact of citywide development. The failure of any one of these facilities to meet the adopted performance standard would affect the city as a whole. In that event, all development in the city would be halted until the deficiency is corrected.

- Parks are analyzed on a quadrant basis. This means that if the standard is not being met in the quadrant, development is halted for all Local Facility Management Zones (LFMZs, see description below) in the quadrant.

- Fire facilities are analyzed on the basis of fire station districts which can comprise multiple LFMZs, and if the standard is not met for a district, then development would be halted in that district.

- The remaining facilities (drainage, circulation, open space, schools, sewer collection system, and water distribution system) are analyzed on an LFMZ basis. If one of these facilities falls below the performance standard in a given LFMZ, development in that LFMZ would stop and other zones would not be affected if they are continuing to meet all performance standards.

IMPACTS OF STATE LAW

According to the Growth Management Plan, development activity cannot proceed if either the residential growth caps or public facility performance standards are not met. However, updates to state law and the city's Housing Element have modified these components of the GMP.

In 2017 the California Legislature passed SB 166, known as the No Net Loss Law, which requires local jurisdictions to ensure that their housing element inventories can accommodate, at all times throughout the planning period, their remaining unmet share of the regional housing need. The California Department of Housing and Community Development (HCD) has taken the following positions with respect to Carlsbad: that failure to meet the GMP performance standards cannot be used as a basis for implementing a moratorium that precludes meeting Carlsbad's share of the regional housing need, and that the GMP residential unit caps could not prevent the city from achieving consistency with the Housing Element inventory and SB 166.

In 2019, the legislature passed SB 330, the Housing Crisis Act of 2019, which prohibits local jurisdictions from imposing moratoriums on housing development and using residential housing caps or other limits to regulate the number of housing units built within a jurisdiction. In regard to how this law applies to Carlsbad's GMP, HCD considers that a housing moratorium adopted due to non-compliance with a GMP performance standard would not be allowed under the SB 330 and confirmed that the city cannot use the growth cap limits specified in the GMP to limit or prohibit residential development.

The City Council adopted Resolution No. 2020-208 on October 20, 2020 finding that the moratorium requirements are unenforceable due to state law. On April 6, 2021 the City adopted Resolution No. 2021-074 finding the city's residential housing caps contained in the General Plan, GMP, Council Policy Statement 43, and

the city's municipal zoning code are preempted by state law and unenforceable. While the city can no longer stop development, it can still implement the GMP performance standards by providing public facilities consistent with the standard.

SUMMARY STATUS OF GMP COMPLIANCE FOR REPORTING PERIOD

As further detailed in this report, and summarized in Table 3 below, the city met the GMP performance standards for the eleven public facilities and city residential growth caps for the FY2019-2020 reporting period.

TABLE 3
FACILITY ADEQUACY STATUS

Public Facility	FY 2019-20 Adequacy Status (Meets performance standard?)	Buildout Adequacy Status (Meets performance standard?)
City Administrative Facilities	Yes	Yes
Library	Yes	Additional facilities to be provided
Wastewater Treatment Capacity	Yes	Yes
Parks	Yes	Additional facilities to be provided
Drainage	Yes	Additional facilities to be provided
Circulation	Yes	Additional facilities to be provided
Fire	Yes	Yes
Open Space	Yes	Additional facilities to be provided
Schools	Yes	Yes
Sewer Collection System	Yes	Additional facilities to be provided
Water Distribution System	Yes	Additional facilities to be provided

Residential Growth Caps

A. Standard

The GMP, and Prop E, established the total maximum number of residential dwelling units that can be constructed citywide, which is distributed by quadrant as reflected below.

NORTHWEST QUADRANT	NORTHEAST QUADRANT	SOUTHWEST QUADRANT	SOUTHEAST QUADRANT	CITYWIDE TOTAL
15,370	9,042	12,859	17,328	54,599

B. FY 2019-20 Analysis

The purpose of this part of the report is to demonstrate that the ultimate dwelling unit caps stated in Proposition E will not be exceeded. Although the city cannot require compliance with the dwelling unit caps as noted previously, the dwelling units status is monitored for reference. Proposition E states "the maximum number of residential dwelling units to be constructed or approved in the city after November 4, 1986 is as follows: Northwest Quadrant 5,844; Northeast Quadrant 6,166; Southwest Quadrant 10,667; Southeast Quadrant 10,801." This resulted in dwelling unit caps as shown in Table 5 (see the totals for each quadrant below). All quadrants are in compliance with the dwelling unit caps established by Proposition E for FY 2019-20. As noted above in Table 2, accessory dwelling units and commercial living units are not counted as dwellings for purposes of Growth Management Plan compliance with the Proposition E caps.

TABLE 5 – FY 2019-20 RESIDENTIAL DWELLING STATUS PER QUADRANT

As of June 30, 2020							
DESCRIPTION	NORTHWEST QUADRANT			NORTHEAST QUADRANT	SOUTHWEST QUADRANT	SOUTHEAST QUADRANT	CITYWIDE TOTAL
	Outside Village	Village	Total NW				
Proposition E Quadrant Dwelling Limit			**15,370**	**9,042**	**12,859**	**17,328**	**54,599**
Existing Dwellings[4]	11,839	649	12,488	7,264	10,179	16,426	46,357
Unbuilt Planned Dwellings[5]	1,989	247	2,236	1,676	1,448	586	5,946
Total Existing & Unbuilt Planned Dwellings	13,828	896	14,724	8,940	11,627	17,012	52,303
Potential Additional Dwellings[6]	**118**	**528**	**646**	**102**	**1,232**	**316**	**2,296**

[4] Existing dwellings represent dwelling units that are counted for purposes of the city's growth management dwelling unit limits per Proposition E and exclude accessory dwelling units and commercial living units.
[5] All quadrants except the Village - includes unbuilt approved projects, as well as vacant and underdeveloped property designated for residential use by the General Plan.
[6] Dwelling unit capacity in addition to what is currently planned by the General Plan or approved as part of an unbuilt project.

Table 5 represents the number of dwelling units that could be built (based on the applicable growth management density) on all parcels that have a residential land use designation. The "total existing and unbuilt planned dwellings", as shown in the table, assumes all parcels with a residential land use designation will be developed with residential dwellings, including land that is currently developed with non-residential uses (e.g., some existing churches and professional care facilities are on land designated for residential use). Although it is not anticipated that these parcels will convert to residential uses, the dwelling unit potential for these parcels is tracked to monitor status of the Proposition E dwelling unit limits.

C. Buildout Facility Adequacy Analysis

Table 6 estimates the number of dwellings that will exist at buildout; this estimate assumes that the residentially designated land currently developed with non-residential uses will not all be developed with residential uses in the future.

TABLE 6 – ESTIMATED DWELLING UNITS AND POPULATION AT BUILDOUT

Quadrant	Dwelling Units	Population
NW	**15,091**	**38,775**
NE	**8,940**	**22,498**
SW	**10,918**	**28,074**
SE	**16,890**	**42,514**
Total	**51,839**	**131,861**

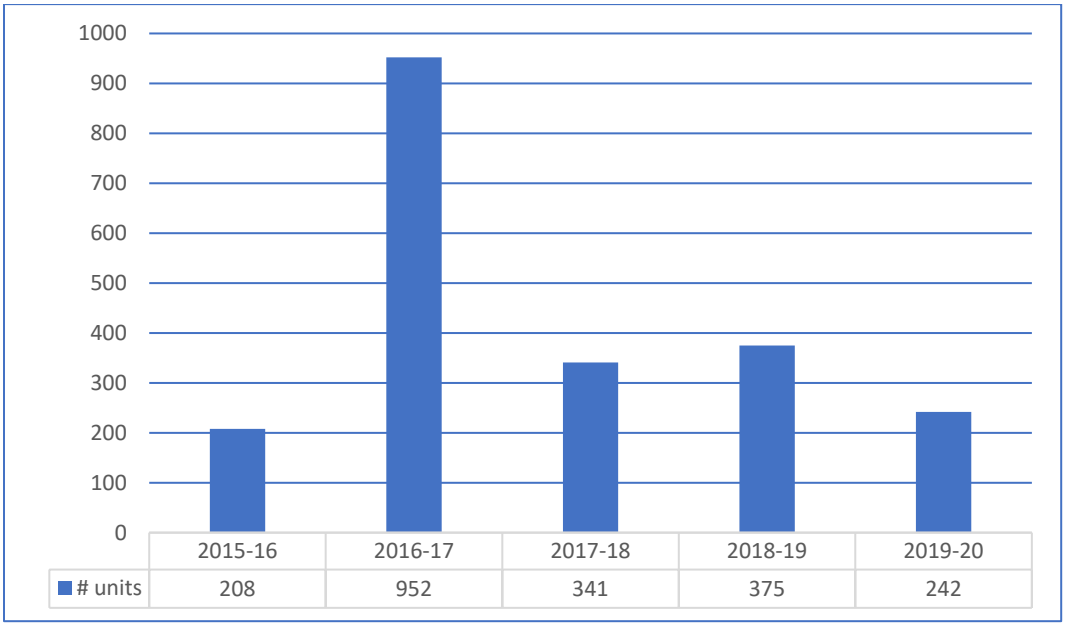
D. Development Activity

Building permits for 242 new dwelling units were issued during the FY 2019-20. Table 7 provides a breakdown by quadrant and LFMZ, excluding the zones that had no development activity. Figure 2 shows the recent five-year trend of building permits issued for dwelling units.

TABLE 7 – FY 2019-20 RESIDENTIAL DEVELOPMENT

Quadrant	LFMZ	Units
NW	1	83
Total NW		83
NE	5	5
	25	25
Total NE		30
SW	19	1
	20	2
	21	58
Total SW		61
SE	6	8
	10	1
	17	58
	18	1
Total SE		68
Total citywide		**242**

FIGURE 2 - FISCAL YEAR DWELLING UNITS PERMITTED



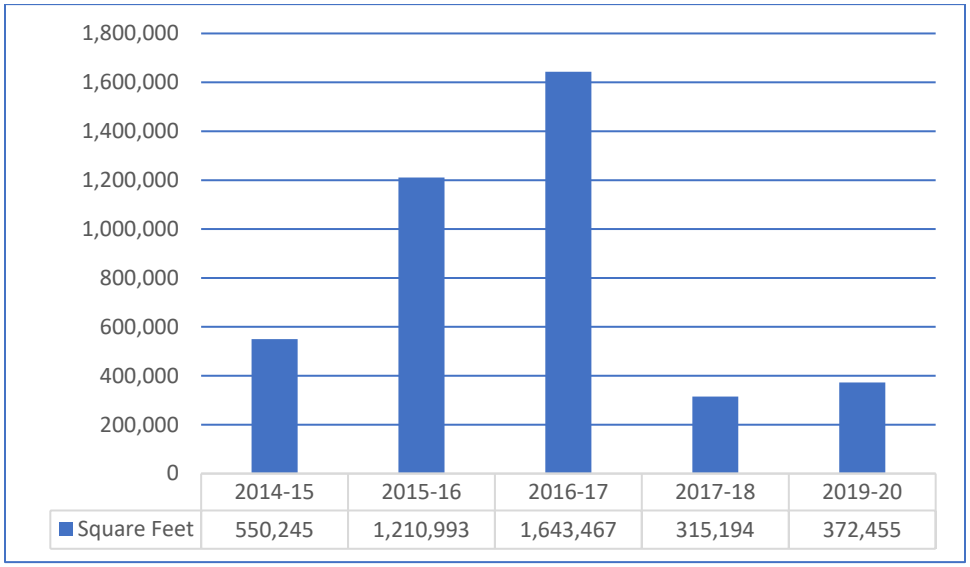
- Non-Residential Development Activity

Building permits for 342,455 square feet of new non-residential construction were issued during FY 2019-20, comprising both commercial and industrial development. Table 5 provides a breakdown by quadrant and LFMZ, excluding the zones that had no development activity. Figure 3 shows the recent five-year trend of building permits issued for the square footage of non-residential construction.

TABLE 5 – FY 2019-20 NON-RESIDENTIAL DEVELOPMENT

Quadrant	LFMZ	Commercial (SF)	Industrial (SF)	Combined (SF)
NW	1	20,795		
	3	723		
	5(NW)	55,352		
Total NW		76,870	-	76,870
NE	15	84,491		
	16	69,000	111,937	
	18		400	
Total NE		153,491	112,337	265,828
SW	19	8,866		
Total SW		8,866	-	8,866
SE	11	5,336		
	17	15,555		
Total SW		20,891	-	20,891
Total citywide		**260,118**	**112,337**	**372,455**

FIGURE 3 – FISCAL YEAR NON-RESIDENTIAL SQUARE FEET PERMITTED



CITY ADMINISTRATIVE FACILITIES

A. Performance Standard

1,500 sq. ft. per 1,000 population must be scheduled for construction within a five-year period or prior to construction of 6,250 dwelling units, beginning at the time the need is first identified.

B. FY 2019-20 Facility Adequacy Analysis

Based on the estimated June 30, 2020 population estimate of 112,683, the current demand for administrative facilities is **169,024** square feet. To date, city administrative facilities exceed the performance standard. Staff recently updated the inventory of square footage of existing facilities, which resulted in refinement to the First Responder Safety Training Center square footage (to reflect more accurate information) and the addition of the portion of the Harding Community Center that is used by Parks & Recreation administration. These changes result in a slightly lower total square footage compared to FY 2018-19 report. The existing inventory of city and Carlsbad Municipal Water District buildings (leased and owned) occupied for administrative services are included in Table 8 below:

TABLE 8

Facility	Address	Square Feet
City Hall Complex	1200 Carlsbad Village Drive	16,000
Faraday Administration Building	1635 Faraday Ave.	68,000
Fleet Service Center	2480 Impala Drive	10,540
Water District (Maintenance & Operations)	5950 El Camino Real	18,212
Parks Yard (Maintenance & Operations)	1166 Carlsbad Village Drive	4,012
Public Works Operations	405 Oak Ave.	9,950
Safety Center (Police and Fire administration)	2560 Orion Way	55,027
First Responder Safety Training Center	5750 Orion Way	15,090
Senior Center (Parks & Recreation administration)	799 Pine Ave.	5,770
Harding Community Center (Parks & Recreation administration)	3096 Harding St.	1,335
Total		**203,936**

C. Buildout Facility Adequacy Analysis

Based on the 2035 projected buildout population of 131,861, the demand for city administrative facilities will be **197,791** square feet. The existing **203,936** square feet of administrative facilities exceeds the growth management performance standard at buildout.

- New Orion Center Project

A development proposal is underway for the Orion Center project, which will centralize the city's maintenance and operations functions into a single location on Orion Way. The goal for the facility is to accommodate the existing and future needs for the following departments: Public Works (Utilities/CMWD, General Services and Construction Management & Inspection) and Parks & Recreation (Parks Maintenance). The proposed project will free up three existing city facilities for redevelopment: 5950 El Camino Real, 405 Oak Street, and 1166 Carlsbad Village Drive. The new building will be 85, 870 square feet, which will provide a net increase in city administrative space of 53,696 square feet over the three existing sites which will no longer be needed.

- New City Hall Project

The new city hall project is in the process of identifying spatial requirements for city staff to determine the size of the new city hall, and site criteria to determine which of four potential locations is best suited for the new city hall and civic center. The initial project has three phases, including the 1) Space Needs Analysis Report, 2) Site Criteria Evaluation, and 3) Best Professional Recommendation. The City Council approved Phases 1 and 2 on September 17, 2019, with the third phase estimated to be completed prior to the end of the third quarter of 2021.

LIBRARY FACILITIES

A. Performance Standard

800 sq. ft. (of library space) per 1,000 population must be scheduled for construction within a five-year period or prior to construction of 6,250 dwelling units, beginning at the time the need is first identified.

Library space (leased/owned, public/non-public) is used as a standard library measurement of customer use and satisfaction and includes collection space, seating, meeting rooms, staff areas, technology, and other public facility needs. The performance standard, stated above, was originally developed based on surveys of other libraries of comparable size and based on related standards (such as volumes per capita) set by the American Library Association.

B. FY 2019-20 Inventory and Adequacy of Facilities

The current inventory of library facilities (city-owned) is shown in Table 9 below:

TABLE 9

Facility	Square Feet
Dove Library	64,000
Cole Library	24,600
Learning Center	11,393
Total	**99,993**

Based on the June 30, 2020 population estimate of 112,683, the growth management standard requires **90,146** sq. ft. of public library space. The city's current 99,993 sq. ft. of library facilities adequately meets the growth management standard.

C. Facility Adequacy at Buildout

Based on the General Plan projected buildout population of 131,861, the demand for library facilities will be **105,489** sq. ft. The existing **99,993** square feet of library facilities is expected to fall short of the growth management standard at buildout.

In 2015-16, the city completed major maintenance and renovation for both the Cole and Dove facilities that addresses current ADA requirements and allows delivery of modern library services and technology, while extending the life of the Cole Library by 10 to 15 years.

Built in 1967, the design of the Cole Library could not have contemplated modern library services including the extensive delivery of electronic resources, automated materials handling, and the variety of new media formats. Additionally, the library's role as a community gathering space has increased. With an already maximized building footprint and infrastructure constraints, the

Cole Library will not expand further to meet these changing needs. Additional meeting spaces, technology learning labs and maker spaces are examples of elements desired by the community.

Complete replacement of the Cole facility is included in the Capital Improvement Program budget between the years 2020 and buildout. Additionally, civic center and city hall site studies, which are currently underway, will most likely inform the timing and opportunities for a new Cole facility. One of the sites being considered for a new city hall and potential civic center is the property that currently includes Cole. As these plans advance, staff will need to evaluate impacts on a future library space.

D. Performance Standard

Sewer plant capacity is adequate for at least a five-year period.

E. FY 2019-20 Facility Adequacy Analysis

The Encina Water Pollution Control Facility (EWPCF) currently provides adequate capacity in excess of the performance standard. Carlsbad's FY 2019-20 annual daily average dry weather sewer flow was 6.31 million gallons per day (MGD) representing 62% of the city's 10.26 MGD capacity rights. The city's annual daily average sewage flow to the EWPCF for the previous five years is shown in Table 10 below:

TABLE 10

Fiscal Year	Annual daily average flow
FY 2015-16	5.82 MGD
FY 2016-17	6.32 MGD
FY 2017-18	6.18 MGD
FY 2018-19	6.03 MGD
FY 2019-20	6.31 MGD

F. Buildout Facility Adequacy Analysis

The Encina Water Pollution Control Facility Phase V Expansion provides adequate sewer treatment capacity to ensure compliance with the growth management wastewater performance standard through buildout of the Carlsbad sewer service area.

The City of Carlsbad 2019 Sewer Master Plan Update contains an analysis of annual daily average sewer flow through buildout (2040) of the city based on the Carlsbad General Plan land use projections. The analysis indicates that the city's projected ultimate buildout flow is approximately 8.31 MGD. The city has purchased capacity rights to 10.26 MGD in the EWPCF, which ensures adequate wastewater treatment capacity is available to accommodate an unanticipated increase in future sewer flows.

PARKS

A. Performance Standard

3.0 acres of Community Park or Special Use Area per 1,000 population within the Park District[7] must be scheduled for construction within a five-year period beginning at the time the need is first identified[8]. The five-year period shall not commence prior to August 22, 2017.

B. FY 2019-20 Facility Adequacy Analysis

To date, all quadrants are in compliance with the performance standard as shown in Table 11.

TABLE 11

Quadrant	Park acreage inventory existing	Park acreage required by Performance Standards
NW	105.2	91.5
NE	45.3	51.7
SW	70.2	77.1
SE	114.9	117.7
Total	**335.6**	**338.0**

The performance standard requirement for park acreage exceeds the inventory of existing and scheduled park acreage for the NW quadrant, but the other quadrants do not currently meet the performance standard. Although short of the acreage required, these quadrants are not out of compliance with the performance standard because the five-year period has not been reached. For the SW and SE quadrants, the five-year period began on August 22, 2017 as required by City Council Resolution No. 2017-170. For the NE quadrant, the FY 2017-18 report identified the park acreage deficit, so the five-year period began on June 30, 2018.

The completion of the Veterans Memorial Park Master Plan will address the referenced deficits in the NE, SW and SE quadrants. Veterans Memorial Park is a city-owned, undeveloped community park site located in the northwest quadrant. Because of its size, centralized location, and citywide significance, the city intends that this site help fulfill future citywide park needs. Thus, when the Citywide Facilities and Improvements Plan (CFIP) was approved in 1986, Veterans Memorial Park (then known as Macario Canyon) was apportioned equally to all four city quadrants to meet the GMP parks performance standard.

[7] "Park District" = "quadrant". There are four park districts within the city, corresponding to the four quadrants.

[8] The threshold for triggering the construction of a new park is as follows: Once a deficit of park acreage in a quadrant is identified, a new park must be scheduled for construction within the time frame of five years. According to City Council Resolution No. 97-435, "scheduled for construction" means that the improvements have been designed, a park site has been selected, and a financing plan for construction of the facility has been approved.

Further, the City of Carlsbad Community Facilities District No. 1 (CFD) was established in 1991, creating a special tax lien on vacant properties throughout the city. The purpose of the CFD was to finance the construction of specific public facilities of citywide obligation and benefit, including Veterans Memorial Park. Consistent with the intent of the CFIP and the CFD, the General Plan Open Space, Conservation and Recreation Element credits 22.9 acres of the 91.5-acre Veterans Memorial Park to each quadrant's future park inventory (see Table 4-7 of the Open Space, Conservation and Recreation Element).

The master planning process for that site commenced in December 2018, with the award of a professional services agreement to RJM Design, and public outreach began in March 2019. The master plan is scheduled to be completed within the next year, before the conclusion of either of the five-year periods referenced above. Once the master plan is complete, the park will be considered "scheduled for construction"[8], and all four quadrants will be fully compliant with the performance standard.

C. Buildout Facility Adequacy Analysis

Based on the current FY 2019-20 CIP list of projects, Veterans Memorial Park is proposed to be constructed prior to buildout. Construction of this community park would result in the projected park inventory for all city quadrants exceeding the projected required acreage at buildout, as shown in Table 12:

TABLE 12

Quadrant	Buildout population[9]	Buildout required acreage[9]	Current inventory	Proposed park acreage	Projected inventory
NW	38,775	116.3	105.2	22.9	128.1
NE	22,498	67.5	45.3	22.9	68.2
SW	28,074	84.2	70.2	22.9	93.1
SE	42,514	127.5	114.9	22.9	137.8
Total	**131,861**	**395.6**	**335.6**	**91.5**	**427.2**

D. Additional Parks Acreage

The proposed park acreage numbers in Table 12 do not include park projects listed in the CIP as "partially funded" or "unfunded". Should alternative funding mechanisms be found, and these parks are built, the additional parks acreage would further aid in meeting/exceeding the growth management parks performance standard

[9] Reflects the General Plan

- Partially funded – In the FY 2019-20 CIP, $12,592,000 has been transferred to the Robertson Ranch Park project (NE – 11.2 acres), which changes its status to "partially funded". The master planning process for this park is scheduled to begin in FY 2021-22.

- Unfunded – Zone 5 Business Park Recreational Facility (NW – 9.3 acres) and Cannon Lake Park (NW – 6.8 acres).

DRAINAGE

A. Performance Standard

Drainage facilities must be provided as required by the city concurrent with development.

B. FY 2019-20 Facility Adequacy Analysis

All areas of the city currently meet the growth management drainage performance standard.

The standard for drainage distinguishes it from the other public facility standards because, by its very nature, drainage facility needs are more accurately assessed as specific development plans for individual projects are finalized. Therefore, the drainage performance standard was written to allow the city to require appropriate drainage facilities as development plans are finalized and approved.

The larger/master planned facilities have been identified in the city's 2008 Drainage Master Plan. The associated Planned Local Drainage Area (PLDA) fee program was established to finance the construction of these facilities. The original Drainage Master Plan was adopted in 1980 with the goal of assessing the performance of existing drainage infrastructure, identifying anticipated improvements and developing a funding mechanism to ensure construction of these planned facilities. The DMP is updated to reflect changes in the general plan, city growth, construction costs, drainage standards and environmental regulations. At the present, the Public Works Branch is updating the 2008 Drainage Master Plan to ensure these larger/master planned facilities will be adequately funded.

The construction of smaller development/project related drainage facilities are addressed during the review of individual project proposals. Maintenance, repair and replacement projects are identified on an ongoing basis and are incorporated in the Capital Improvement Program as a part of the Storm Drain Condition Assessment Program, the Citywide Storm Drain Rehabilitation and Replacement Program, or as individual/stand-alone projects.

The Agua Hedionda and Calavera Creek channels located east of El Camino Real within the residential community of Rancho Carlsbad were found to be of inadequate size to fully contain and convey the 100-year flood event. As a result, the floodplain of these creeks encroaches into the community and therefore projects located within LFMP Zones 5, 7, 14, 15, 16, 18 and 24 that drain to the Agua Hedionda Creek or Calavera Creek must comply with the following conditions to maintain compliance with the drainage performance standard:

1. Payment of the PLDA fee.

2. Install onsite drainage improvements to ensure that direct drainage impacts resulting from the proposed development do not exacerbate the potential for downstream flooding of existing development.

C. Buildout Facility Adequacy Analysis

The 2008 Carlsbad Drainage Master Plan proposes the construction of new facilities to accommodate potential storm events. Construction of the proposed Master Drainage Facilities will ensure the drainage performance standard is maintained through buildout of the city. The current update to the Drainage Master Plan will ensure adequate funds are available for the construction of needed flood control facilities. The estimated costs for these facilities and the programming of PLDA funds are included in the annual Capital Improvement Program.

CIRCULATION

A. Performance Standard

Implement a comprehensive livable streets network that serves all users of the system – vehicles, pedestrians, bicycles and public transit. Maintain level of service (LOS) D or better for all modes that are subject to this multi-modal level of service (MMLOS) standard, as identified in Table 3-1 of the General Plan Mobility Element, excluding LOS exempt intersections and streets approved by the City Council.

The service levels for each travel mode are represented as a letter "grade" ranging from LOS A to LOS F: LOS A reflects a high level of service for a travel mode (e.g., outstanding characteristics and experience for that mode) and LOS F would reflect an inadequate level of service for a travel mode (e.g., excessive congestion for vehicles or inadequate facilities for bicycle, pedestrian or transit users).

The performance standard for the circulation system is guided by the General Plan Mobility Element as follows:

> *Implementing Policy 3-P.3: Apply and update the city's multi-modal level of service (MMLOS) methodology and guidelines that reflect the core values of the Carlsbad Community Vision related to transportation and connectivity. Utilize the MMLOS methodology to evaluate impacts of individual development projects and amendments to the General Plan on the city's transportation system.*
>
> *Implementing Policy 3-P.4: Implement the city's MMLOS methodology and maintain LOS D or better for each mode of travel for which the MMLOS standard is applicable, as identified in Table 3-1 and Figure 3-1*[10]*.*

B. Livable Streets

The monitoring program for the circulation system is guided by General Plan Mobility Element Goal 3-G.1:

> *Keep Carlsbad moving with livable streets that provide a safe, balanced, cost-effective, multi-modal transportation system (vehicles, pedestrians, bikes, transit), accommodating the mobility needs of all community members, including children, the elderly and the disabled.*

The California Complete Streets Act (2008) requires cities in California to plan for a balanced, multi-modal transportation system that meets the needs of all travel modes. Accomplishing this state mandate requires a fundamental shift in how the city plans and designs the street system – recognizing the street as a public space that serves all users of the system (elderly, children, bicyclists, pedestrians, etc.) within the urban context of that system (e.g., account for the adjacent land uses).

[10] Table 3-1 and Figure 3-1 are found in the General Plan Mobility Element and are summarized in Table 13 of this report.

- Prior to adoption of the General Plan Mobility Element on Sept. 22, 2015, the growth management circulation performance standard was based on the circulation needs of a single mode of travel – the automobile.
- The General Plan Mobility Element identifies a new livable streets strategy for mobility within the city.
- The livable streets strategy focuses on creating a 'multi-modal' street network that supports the mobility needs of pedestrians, bicyclists, transit users and vehicles.
- Providing travel mode options that reduce dependence on the vehicle also supports the city's Climate Action Plan in achieving its goals of reducing greenhouse gas emissions within the city.

C. Street Typology

The city's approach to provide livable streets recognizes that improving the LOS for one mode of transportation can sometimes degrade the LOS for another mode. For example, pedestrian-friendly streets are designed to encourage pedestrian uses and typically have amenities that slow vehicle travel speeds (e.g., short-distance pedestrian crossings that restrict vehicle mobility). The "street typology" is defined in the General Plan Mobility Element and determines which travel modes are subject to the MMLOS D standard, as summarized in Table 13. For example, the vehicular mode of travel is subject to the MMLOS D standard on the following street typologies: freeways, arterial streets, arterial connector streets and Industrial streets.

Table 13: Street Typology and MMLOS Standard

STREET TYPOLOLOGY	Modes subject to the MMLOS D Standard			
	Vehicular	Transit	Pedestrian	Bicycle
Freeways	Yes	Yes	No	No
Arterial Streets	Yes	Yes	No	No
Identity Streets	No	No	Yes	Yes
Village Streets	No	No	Yes	Yes
Arterial Connector Streets	Yes	No	Yes	Yes
Neighborhood Connector Streets	No	No	Yes	Yes
Coastal Streets	No	No	Yes	Yes
School Streets	No	No	Yes	Yes
Employment/Transit Connector Streets	No	Yes	Yes	Yes
Industrial Streets	Yes	Yes	No	No
Local/Neighborhood Streets	No	No	Yes	Yes
All Streets Located Within Half-Mile of a Transit Center	No	Yes	Yes	Yes
Bicycle/Pedestrian Pathways	No	No	Yes	Yes

D. Methods to Measure Service to Different Transportation Modes

a. How vehicular LOS is measured

The city monitors facilities that are subject to the vehicular LOS standard according to that street's typology as defined in Table 13. This section of the report summarizes the vehicular LOS methodology used for monitoring purposes. For the fiscal year (FY) 2019-20 monitoring report all the street facilities required to meet the vehicular LOS standard were monitored including the arterial, arterial connector, and industrial street typologies.

The city evaluates the roadway network at the "facility" level according to Chapter 16 of the Highway Capacity Manual. A facility is defined as one direction of travel along a length of road that has similar travel and geometric characteristics, and it typically extends between multiple signalized intersections. Each facility has an associated capacity that is defined in the Highway Capacity Manual as "the ability of a transportation facility or service to meet the quantity of travel demanded of it." For Growth Management Plan monitoring purposes, travel demand on a roadway is measured by the volume of vehicles using the facility during the peak hours of operation. A volume threshold is established for each LOS grade according to the Highway Capacity Manual. The vehicular LOS is determined by comparing the traffic volume against these thresholds. For example, a LOS D is recorded when a traffic volume exceeds the LOS C threshold but is below the LOS D threshold.

A street "facility" is comprised of smaller and contiguous "segments" that typically extend between two adjacent signalized intersections. Per the Highway Capacity Manual, an entire facility is reported as failing if the volume along any one of its segments exceeds its capacity, which defines LOS F. When a facility has been monitored and found to operate at LOS D, each segment of that facility will be evaluated the following monitoring cycle and the LOS will be reported as follows:

- If the volume of any one segment of the facility exceeds the reported capacity for that segment, the facility will be reported as LOS F; or

- If none of the segment volumes exceeds its reported capacity for that segment, the facility will be reported as LOS D (or the new level if it has changed).

As noted above, travel demand is assumed to equal the traffic volume measured during the peak hour of operation. Vehicular LOS is determined based on one mid-block traffic count collected for each facility (or segment) being evaluated. The data is collected while school is in session in either the spring or fall. The morning and afternoon (a.m./p.m.) peak hours' LOS is reported for each facility or segment. Each street evaluated will have separate LOS results reported for the a.m. and p.m. peak hour

conditions with independent grades reported for each direction of travel. This approach to data collection is consistent with industry standards.

b. How Pedestrian, Bicycle and Transit Service MMLOS is measured

The General Plan Mobility Element calls for the use of a MMLOS methodology to provide a metric for evaluating bicycle, pedestrian and transit modes of travel. In 2015, a method for evaluating bicycle and pedestrian LOS was first developed as part of the General Plan Environmental Impact Report (EIR); this EIR method was applied on a broad, program level to evaluate service to pedestrian, bicycle and transit users. When consultants applied the original method during the preparation of impact studies of proposed development projects, limitations were discovered in terms of the study area, directional travel and potential inconsistent interpretations of how the method should be applied.

Accordingly, a more robust method was developed in 2018 to calculate MMLOS for each mode and to identify a broader range of improvements that could be implemented to ensure the minimum operating standard would be met. As noted in General Plan Mobility Element Policy 3-P.3, the purpose of the MMLOS methodology is to provide a means for evaluating impacts of individual development projects, as well as monitoring the LOS for individual streets to ensure that they are meeting the specified standard by street type. Ultimately the MMLOS methodology was revised to accomplish these goals and a spreadsheet-based MMLOS Tool was developed to provide an easy-to-use way of calculating points for a specified location.

The MMLOS Tool generates a letter grade (A through F) to reflect the quality of service provided to a user of that mode of travel. This grade is based on the applicable attributes of the associated pedestrian, bicycle or transit mode. Examples of the attributes used to develop the MMLOS grade for bicycle travel include pavement condition, posted speed limit, on-street parking and buffered bike lanes. Each attribute contributes to a point system that corresponds to a MMLOS letter grade, when the total points for all attributes are added together. A LOS D score indicates that the existing attributes provide the minimum acceptable service for that mode. The MMLOS grades are determined using field data related to each attribute used in the scoring criteria.

In FY 2019-20, bicycle, pedestrian, and transit travel modes were monitored but will be presented separately as the methodology for MMLOS was being updated at the time of writing this report. The results of the MMLOS will be presented in a separate document

after the methodology updates are finalized through the process of working with the Traffic and Mobility Commission ad-hoc committee and later adoption by City Council.

C. Exemptions to the LOS D Standard

General Plan Mobility Element Policy 3-P.9 requires the city to develop and maintain a list of street facilities where specified modes of travel are exempt from the LOS standard (LOS-exempt street facilities), as approved by the City Council.

Regarding vehicular LOS standards, the City Council has the authority to exempt a street facility from the vehicular LOS standard if the street facility meets one or more of the following criteria from General Plan Mobility Element Policy 3-P.9:

- Acquiring the rights of way is not feasible; or
- The proposed improvements would significantly impact the environment in an unacceptable way and mitigation would not contribute to the nine core values of the Carlsbad Community Vision; or
- The proposed improvements would result in unacceptable impacts to other community values or General Plan policies; or
- The proposed improvements would require more than three through travel lanes in each direction.

General Plan Mobility Element Policy 3-P.11 requires new development that adds vehicular traffic to street facilities that are exempt from the vehicle LOS D standard to implement:

- Transportation Demand Management (TDM) strategies that reduce the reliance on single-occupant automobiles and assist in achieving the city's livable streets vision; and

- Transportation System Management (TSM) strategies that improve traffic signal coordination and improve transit service.

Each of the previously exempt street facilities were monitored this cycle and evaluated against the vehicular LOS standard. The results of this evaluation are summarized in Table 14 below. No changes have occurred since the adoption of these resolutions that would warrant lifting exemptions for these street facilities.

Table 14: Vehicle LOS Exempt Street Facilities					
Street Facility	**From**	**To**	**LOS (AM/PM)**	**Meets LOS Standard?**	**Date of Exemption**
1. La Costa Avenue	Interstate-5	El Camino Real	B/B	Yes	Exempted with Adoption of the General Plan Mobility Element on Sept. 22, 2015
2. La Costa Avenue	El Camino Real	Interstate-5	B/B	Yes	
3. El Camino Real	Palomar Airport Road	Camino Vida Roble	D/D	Yes	
4. El Camino Real	Camino Vida Roble	Poinsettia Lane	B/B	Yes	
5. El Camino Real	Poinsettia Lane	Aviara Parkway/Alga Road	C/C	Yes	
6. El Camino Real	Aviara Parkway/Alga Road	La Costa Avenue	C/C	Yes	
7. El Camino Real	La Costa Avenue	Aviara Parkway/Alga Road	B/B	Yes	
8. El Camino Real	Aviara Parkway/Alga Road	Poinsettia Lane	C/C	Yes	
9. El Camino Real	Poinsettia Lane	Camino Vida Roble	B/B	Yes	
10. El Camino Real	Camino Vida Roble	Palomar Airport Road	D/D	Yes	
11. Palomar Airport Road	Avenida Encinas	Paseo del Norte	**F/F**	**No***	
12. Palomar Airport Road	Paseo del Norte	Armada Drive	C/C	Yes	
13. Palomar Airport Road	Armada Drive	College Boulevard/Aviara Parkway	C/C	Yes	
14. Palomar Airport Road	College Blvd./Aviara Parkway	Armada Drive	C/C	Yes	
15. Palomar Airport Road	Armada Drive	Paseo del Norte	C/C	Yes	
16. Palomar Airport Road	Paseo del Norte	Avenida Encinas	**F/F**	**No***	
17. Palomar Airport Road	El Camino Real	El Fuerte Street	B/C	Yes	
18. Palomar Airport Road	El Fuerte Street	Melrose Drive	B/C	Yes	
19. Palomar Airport Road	Melrose Drive	El Fuerte Street	C/B	Yes	
20. Palomar Airport Road	El Fuerte Street	El Camino Real	B/B	Yes	
21. El Camino Real	Oceanside city limits	Marron Road	**E/E**	**No**	Dec. 17, 2019 Res. 2019-270
22. El Camino Real	Marron Road	Oceanside city limits	**E/E**	**No**	
23. Melrose Drive	Vista city limits	Palomar Airport Road	D/D	Yes	
24. El Camino Real	Cannon Road	College Boulevard	B/B	Yes	Jun. 9, 2020 Res. 2020-105
25. El Camino Real	College Boulevard	Cannon Road	B/C	Yes	
26. Cannon Road	El Camino Real	College Boulevard	D/D	Yes	
27. Cannon Road	College Boulevard	El Camino Real	D/D	Yes	
28. El Camino Real	Tamarack Avenue	Cannon Road	C/C	Yes	Nov. 3, 2020 Res. 2020-214
29. College Boulevard	Carlsbad Village Drive	Oceanside City Limits	C/C	Yes	Jan. 12, 2021** Res. 2021-003
30. Cannon Road	Avenida Encinas	Paseo del Norte	D/D	Yes	
31. Cannon Road	Paseo del Norte	Avenida Encinas	D/D	Yes	

** On Dec. 17, 2019, City Council determined four street facilities to be operating at deficient levels of service. One of these deficient street facilities is southbound College Boulevard from Aston Avenue to Palomar Airport Road, and City Council expedited a Capital Improvement Program (CIP) project to fully address this deficiency by adding a southbound right turn lane and converting the existing right turn lane into a second southbound through lane on College Boulevard at the intersection of Palomar Airport Road (CIP Project No. 6028).*

*** On January 12, 2021 City Council also exempted the remaining facility of Palomar Airport Road between Avenida Encinas to Paseo del Norte.*

D. FY 2019-20 Facility Adequacy Analysis

The following vehicular LOS and MMLOS results are based on the data reported in the *2019-20 Traffic Monitoring Program City of Carlsbad Growth Management Plan*.

1. Vehicular LOS

Except where noted below, vehicular LOS grades reflect traffic data gathered in April, May, and June of 2020. The traffic volumes were collected during a global pandemic which included local orders for Carlsbad residents to stay at home unless performing essential trips. These circumstances resulted in a significant decrease in traffic volumes throughout the city. The volumes used in this report were not adjusted and reflect the volumes during the pandemic conditions.

Overall, in April 2020, daily traffic volumes had dropped by an average of 41% throughout the region and traffic volumes on I-5 decreased by over 50% (SANDAG, May 2020, Infobits). While traffic volumes are likely to partially rise again after the end of the pandemic, some of the changes in work patterns and the reduction in traffic volumes may be permanent, due to the pandemic speeding up the transition to telecommuting through social and technological changes. Consequently, vehicular LOS values may not return to their pre-pandemic levels. These facilities will be continued to be monitored.

The LOS results for the vehicular mode are illustrated in Figure 4. In summary, all roadway facilities were determined to operate at an acceptable LOS D or better except for the following four facilities:

- Eastbound Palomar Airport Road between Avenida Encinas and Paseo del Norte (LOS F)
- Westbound Palomar Airport Road between Paseo del Norte and Avenida Encinas (LOS F)
- Southbound El Camino Real between the Oceanside city limits and Marron Road (LOS E)
- Northbound El Camino Real between Marron Road and Oceanside city limits (LOS E)

All the deficient roadway facilities identified above were previously determined by City Council to be deficient and exempt per General Plan Mobility Policy 3-P.10 and no new deficient facilities were identified.

Table 15 lists the street facilities which were previously reported as LOS D in the FY 2018-19 monitoring report. The facilities were further studied at the segment level as part of the FY 2019-20 report to determine the operating LOS of the facility at the segment level. The results of this analysis show that all of these facilities will still meet the LOS D standard.

Figure 4: Vehicular Level of Service (LOS) Results

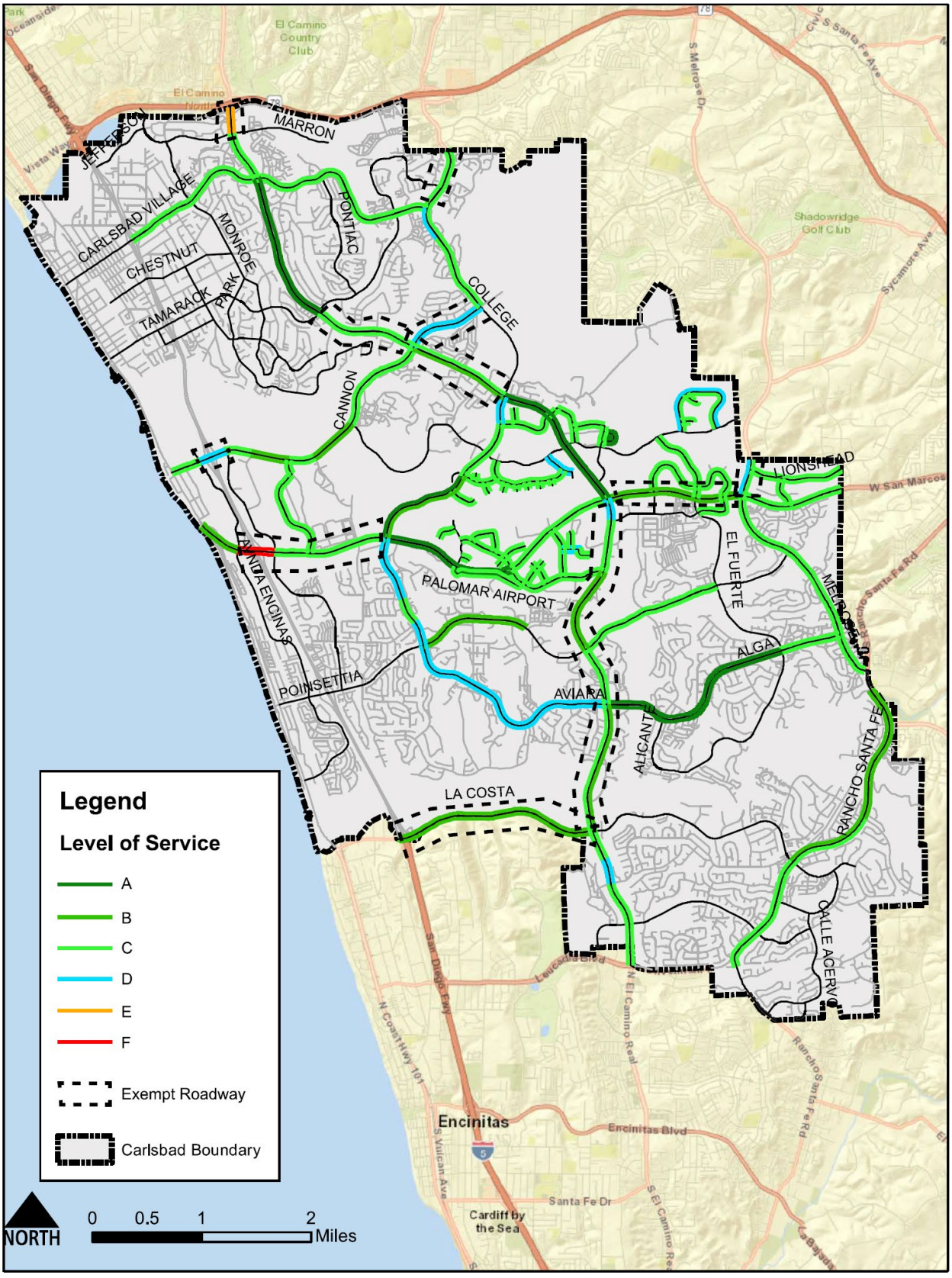


Table 15: Facilities studied at the segment level that were LOS D in previous reporting year.			2019				2020			
			AM		PM		AM		PM	
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
El Camino Real	Palomar Airport Rd	Camino Vida Roble	D	D	D	D				
	Palomar Airport Rd	Gateway Rd					D	D	D	D
	Gateway Rd	Town Garden Rd					C	C	C	C
	Town Garden Rd	Camino Vida Roble					C	C	C	C
El Camino Real	La Costa Ave	Leucadia Blvd	C	D	C	C				
	La Costa Ave	La Costa Towne Ctr					C	C	C	C
	La Costa Towne Ctr	Levante St					D	D	D	D
	Levante St	Calle Barcelona					B	B	C	C
	Calle Barcelona	Leucadia Blvd					C	C	C	C
College Blvd	Carlsbad Village Dr	Cannon Rd	C	D	D	C				
	Carlsbad Village Dr	Redbluff Pl/Inlet Dr					C	D	D	C
	Redbluff Pl/Inlet Dr	Rift Rd/Richfield Dr					C	C	C	C
	Rift Rd/Richfield Dr	Cannon Rd					C	C	C	C
College Blvd	El Camino Real	Aston Ave	D	D	D	D				
	El Camino Real	Salk Ave					D	D	D	D
	Salk Ave	Faraday Ave					C	C	C	C
	Faraday Ave	Aston Ave					C	C	C	C
Aviara Pkwy/Alga Rd	Palomar Airport Rd	Poinsettia Ln	D	D	D	D				
	Palomar Airport Rd	Laurel Tree Ln					D	D	D	D
	Laurel Tree Ln	Mariposa Rd/Cobblestone Rd					D	D	D	D
	Mariposa Rd/Cobblestone Rd	Plum Tree Rd					D	D	D	D
	Plum Tree Rd	Camino De Las Ondas					C	C	C	C
	Camino De Las Ondas	Poinsettia Ln					D	D	D	D
Rancho Santa Fe	La Costa Ave	Calle Barcelona	C	C	D	C				
	La Costa Ave	Camino De Los Coches					C	C	C	C
	Camino De Los Coches	Calle Barcelona					C	C	C	C
Cannon Rd	Legoland Dr	Faraday Ave	C	C	D	C				
	Legoland Dr	Grand Pacific Dr					C	C	C	C
	Grand Pacific Dr	Faraday Ave					B	B	B	B

E. Buildout Facility Adequacy Analysis

The 2015 General Plan EIR evaluated how buildout of the land uses planned by the General Plan will impact the vehicle, pedestrian, bicycle and transit levels of service, and identified that additional circulation facilities may need to be constructed to meet the GMP performance standard at buildout. The following summary provides the results of that evaluation:

Vehicular Level of Service at Buildout

- Additional future road segments (extensions of College Boulevard, Poinsettia Lane and Camino Junipero) needed to accommodate the city's future growth were identified as part of the General Plan update. The General Plan Mobility Element identifies these needed future road segments as "Planned City of Carlsbad Street Capacity Improvements."
- The General Plan also called out the need to implement the scheduled Interstate-5 North Coast Project and Interstate-5/Interstate-78 Interchange Improvement Project that are needed to accommodate future growth.
- The CIP funds projects that will upgrade the LOS including several roadway widenings along El Camino Real near College Boulevard (northbound), La Costa Avenue (southbound) and Cassia Road (northbound). There is also a CIP project currently in the design phase to add a second southbound through lane and dedicated right turn lane on southbound College Boulevard (southbound) from Aston Avenue to Palomar Airport Road.
- The General Plan EIR identifies TDM and TSM as mitigation measures for roadway sections that have been determined to be LOS-exempt.

F. Next Steps

Staff will finalize the updates to the pedestrian, bicycle and transit MMLOS methodologies. Staff will gather stakeholder feedback on the MMLOS Tool, including from the Traffic and Mobility Commission, to guide this process. Based on the feedback received, staff will update the MMLOS methodologies accordingly and present to the Traffic and Mobility Commission for a recommendation to City Council for approval. Once City Council has approved the refined MMLOS Tool, staff will apply it to the city streets monitored in FY 2019-20 and present the MMLOS results to City Council later this year.

FIRE

A. Performance Standard

No more than 1,500 dwelling units outside of a five-minute response time.

B. FY 2019-20 Facility Adequacy Analysis

The city's fire facilities are in compliance with the Growth Management performance standard. There are no more than 1,500 dwelling units outside of a five-minute response distance from any of the city's six fire stations.

The intent of the growth management standard, as applied to fire facilities, is to establish the distribution of station locations, based upon response distances. At the time the Growth Management Plan was developed, scientific fire behavior information and recognized best practices supported the position that a response time of five minutes would result in effective fire incident intervention. Because the Growth Management Plan provides no other trigger mechanism for the installation of additional fire stations, it follows that up to 1,500 dwelling units could exist outside the five-minute reach of the closest fire station for an indeterminate length of time without violating the growth management standard. The five-minute response distance measure was selected exclusively as a means of geographically positioning fire stations throughout the city. Therefore, the standard is applied as a means of measuring compliance with locating fire facilities in accordance with the Growth Management Plan, not the performance of the Fire Department in meeting service responsibilities.

C. Buildout Facility Adequacy Analysis

At buildout, the established threshold of more than 1,500 units that exist outside of a five minute response distance will not be exceeded for any of the fire stations.

To determine if fire facilities comply with the Growth Management Plan at buildout, the city's Geographic Information System Department (GIS) created a map based upon the following information:

- Existing fire station locations
- Anticipated future development
- 2.5-mile road distance from each of the six fire stations (five minute response time equates to road driving distance of 2.5 miles);
- All planned, major roadway arterials; and
- The number of dwelling units projected at buildout that will be located outside of the 2.5-mile road (5 minute) distance from each fire station.

The GIS map, based upon the above-noted assumptions, revealed the following findings as shown in Table 16:

TABLE 16

Fire Station Number	Total number of dwelling units outside of five minutes
1,3 & 4 (aggregated)	1,227
2	902
5	392
6	1,185

As noted above, the GIS map analysis revealed that at build out, the city's existing and planned fire facilities will meet the growth management performance standard (i.e. the total number of dwelling units that will exist outside of a five-minute response distance from the nearest fire station will not exceed the threshold of 1,500 units).

OPEN SPACE

A. Performance Standard

Fifteen percent of the total land area in the Local Facility Management Zone (LFMZ) exclusive of environmentally constrained non-developable land must be set aside for permanent open space and must be available concurrent with development.

B. FY 2019-20 Facility Adequacy Analysis

To date, adequate open space has been provided to meet the performance standard.

Open space to meet the performance standard is provided concurrent with approval of development projects. The location of performance standard open space must be indicated during project-specific analysis. It must be in addition to any constrained areas, such as protected wildlife habitat or slopes greater than 40%. At the time the Citywide Facilities and Improvements Plan was adopted (1986), the LFMZ's were divided into: a) those that were considered already developed or in compliance with the growth management open space performance standard, and b) those that still needed to comply with the standard.

a) In 1986 at the time of the CFIP adoption, LFMZs 1 through 10, and 16 were considered to be already developed or in compliance with the open space performance standard[11].

   In addition, Ordinance No. 9808 provided exemptions from the Growth Management Plan and all of the performance standards for a number of projects that were approved and/or in process at that time. These projects are also listed in a memo to the City Manager on June 10, 1986.

   In the case of LFMZ 9, the boundaries of the remaining developable land in the zone coincided with the project boundaries of the Batiquitos Lagoon Educational Park Master Plan (MP 175, approved 10-22-1985), which was exempted from growth management by Section 21.90.030(g) of Ordinance No. 9808 if certain restrictions were met, including a dedication of open space[12]. In anticipation of future construction, the developer of MP 175 dedicated the necessary open space properties, completing that portion of the requirement for 21.90.030(g)[13]. Although MP 175 ultimately was never constructed, these open space dedications were

[11] City Council Resolution No. 8797

[12] The restriction for open space required that "Prior to approval of the final map for Phase I the master plan developer shall have agreed to participate in the restoration of a significant lagoon and wetland resource area and made any dedications of property necessary to accomplish the restoration".

[13] City Council Resolution No. 8666 contained an agreement between the city and the developer for the open space property dedications noted above.

maintained and became part of the open space for the project that followed, the Poinsettia Shores Master Plan (MP 175(D), approved 01-18-94), and are the basis for how MP 175(D) and LFMZ 9 complied with the growth management open space performance standard[14].

b) The remaining LFMZs were required to comply with the performance standard. Subsequent to the adoption of the CFIP, LFMZs 11-15, 17-21, and 23-25 have provided adequate open space to meet the performance standard concurrent with development.

   LFMZ 22 has not yet met the performance standard, and as future development occurs, additional open space will be required.

C. Buildout Facility Adequacy Analysis

As discussed above, all LFMZs, except for Zone 22, have met the growth management open space performance standard. Future projects in LFMZ 22 must provide open space in compliance with the performance standard.

[14] Poinsettia Shores Master Plan, pages 4 and 22. The master plan states "the Growth Management Open Space standard is already met for Zone 9 through the earlier preservation of the sensitive bluffs and slopes".

SCHOOLS

A. Performance Standard

School capacity to meet projected enrollment within the Local Facility Management Zone (LFMZ) as determined by the appropriate school district must be provided prior to projected occupancy.

B. FY 2019-20 Facility Adequacy Analysis

Currently, school capacity is in compliance with the growth management school performance standard (see below). The city is served by four school districts as listed below:

1. Carlsbad Unified School District (CUSD)

   According to both the district's Long Range Facility Master Plan (approved Jan. 17, 2018) and CUSD staff, the district can accommodate both the current enrollment levels and expected future growth. The master plan indicates that the district has plans for accommodating projected student enrollment levels through the next 15-20 years, which includes proposals for renovating and replacing a variety of school facilities.

2. San Marcos Unified School District (SMUSD)

   SMUSD staff indicated that the schools serving Carlsbad are currently at maximum capacity, but that will-serve letters are still being issued by SMUSD for proposed developments in the part of Carlsbad that is served by SMUSD schools, and that the schools serving Carlsbad could accommodate the expected future growth within this area. SMUSD completed construction in August 2019 of the La Costa Meadows Elementary School Reconstruction Project, which reconstructed and modernized the school, and also increased student capacity by 80 seats.

3. Encinitas Union Elementary School District

   According to student enrollment and school capacity information provided by the school district, sufficient student capacity exists for the 2019-20 school year for schools serving Carlsbad.

4. San Dieguito Union High School District

   According to student enrollment and school capacity information provided by the school district, sufficient student capacity exists for the 2019-20 school year for schools serving Carlsbad.

C. Buildout Facility Adequacy Analysis

Based on Chapter 3.11 of the 2015 General Plan EIR, for all school districts at all grade levels, capacity is expected to be sufficient for the buildout student population with no need for additional schools.

SEWER COLLECTION SERVICES

A. Performance Standard

Trunk-line capacity to meet demand, as determined by the appropriate sewer districts, must be provided concurrent with development.

B. FY 2019-20 Facility Adequacy Analysis

Sewer improvements are provided on a project-by-project basis concurrent with development. Currently, the City of Carlsbad's sewer service area pipelines comply with the growth management performance standard. The sewer agencies that provide sewer collection systems within the city include: Carlsbad, Leucadia Wastewater District and Vallecitos Water District. Each agency indicates that they currently have adequate conveyance capacity in place to meet Carlsbad's sewer collection demands.

The City of Carlsbad is served by the following six major interceptor systems, as shown in Table 17 below:

TABLE 17

Interceptor System	Sewer Districts Served	Carlsbad Capacity Rights[15]
Vista/Carlsbad Interceptor	City of Carlsbad & City of Vista	Ranges from 1.0 MGD up to 41.8 MGD (3.3% to 50%)
Buena Interceptor[16]	City of Carlsbad & Buena Sanitation District	Ranges from 1.2 MGD up to 3.6 MGD (18% to 35%)
Vallecitos Interceptor	City of Carlsbad, Buena Sanitation District & Vallecitos Water District	5 MGD
Occidental Sewer[17]	City of Carlsbad, City of Encinitas & Leucadia Waste Water District	8.5 MGD (40%)

[15] Million gallons per day (MGD)

[16] Buena Sanitation District and the City of Carlsbad are negotiating the transfer of this facility to the City of Carlsbad upon City of Vista's completion of their Buena Outfall Force Main, Phase III project.

[17] The downstream sections (NB8 and NB9) of the North Batiquitos Sewer, often referred to as Ponto Sewer and originally termed the Occidental Sewer

North Agua Hedionda Interceptor	City of Carlsbad	6 MGD (100%)
South Agua Hedionda Interceptor	City of Carlsbad	4.7 MGD (100%)

For both the Vista/Carlsbad Interceptor and the Buena Interceptor, the percentage of Carlsbad capacity rights increases in the downstream reaches of each interceptor system (3.3% in the upstream reaches as they enter the Carlsbad service area and up to 35% or 50% in the downstream reaches for Buena Interceptor and Vista/Carlsbad Interceptor, respectively as they enter the Encina Water Pollution Control Facility).

C. Buildout Facility Adequacy Analysis

The City of Carlsbad 2019 Sewer Master Plan Update evaluated the sewer infrastructure needs of the Carlsbad sewer service area and identified facilities required to accommodate future sewer flows at buildout. The master plan identified the Vista/Carlsbad Interceptor and Buena Interceptor as requiring improvements to accommodate build-out demand (see below). Sewer trunk main adequacy is estimated by comparing wastewater flow projections to the capacity of the sewer system using a computer model. Annual sewer flow measurements are used to assess actual flows and to evaluate capacity in the sewers.

Collection system improvements to meet buildout conditions are identified at three locations: Faraday Avenue, Poinsettia Avenue and Kelly Drive. These projects are programmed in the CIP.

The adequacy of major sewer facilities for buildout conditions is summarized as follows:

Vista/Carlsbad Interceptor**:** The City's 2019 Sewer Master Plan Update indicates that portions of the V/C Interceptor do not satisfy buildout system flows. Hydraulic model results indicate that the 36-inch diameter gravity mains of Reach VC-3 are insufficient to convey buildout flows. Most of reach VC-3 consists of 36-inch diameter gravity main and is scheduled for upsizing to 42 inches as a future CIP project to meet buildout flows.

Buena Interceptor: The Buena Interceptor is currently shared by Vista and Carlsbad and, although the city's wastewater flows are not projected to exceed its capacity rights, the combined flows of Buena Sanitation District and City of Carlsbad during peak wet weather periods exceed the design capacity criterion. As a result, Buena Sanitation District is constructing a parallel trunk sewer which will allow flow from Buena Sanitation District to be diverted to the parallel trunk sewer. Once completed in 2021, the City of Carlsbad will be the only agency with flows remaining in the existing Buena Interceptor and peak wet weather flow at buildout conditions would reach 7.3 mgd or approximately 69 percent of pipe capacity.

WATER DISTRIBUTION SERVICES

A. Performance Standard

Line capacity to meet demand as determined by the appropriate water district must be provided concurrent with development. A minimum of 10-day average storage capacity must be provided prior to any development.

B. FY 2019-20 Facility Adequacy Analysis

Carlsbad's water distribution is provided by three agencies including the Carlsbad Municipal Water District (CMWD), which is a subsidiary district of the City of Carlsbad, serving 32.32 square miles (82.7 percent of the city), Olivenhain Municipal Water District (OMWD) serving 5.28 square miles (13.5 percent of the city), and Vallecitos Water District (VWD) serving 1.48 square miles (3.8 percent of the city). These districts indicate that they have adequate capacity to meet the growth management performance standard.

Water service demand requirements are estimated using a computer model to simulate two water distribution scenarios: 1) maximum day demand plus a fire event; 2) peak hour demand. This computer model was calibrated using actual flow measurements collected in the field to verify it sufficiently represents the actual water system.

Existing (2014 baseline year) and buildout (2040) daily demand and storage requirements for CMWD from the CMWD 2019 Potable Water Master Plan are shown in Table 18 below:

TABLE 18

Water Demand	**Flow Rate [18]**
Existing Maximum Day Demand	24.1 MGD
Buildout Maximum Day Demand	29.6 MGD
Water Storage	**Volume[19]**
Existing Storage Requirement	35.4 MG
Existing Storage Capacity	47.5 MG (excluding Maerkle Dam storage)

Based on the water model analysis prepared for the CMWD 2019 Potable Water Master Plan, future pipelines and water system facilities were identified to ensure water system improvements are constructed to accommodate future customers. In addition, funds for the construction of future facilities are included in the Capital Improvement Program. Therefore, the future water infrastructure is programmed to be in place at the time of need to ensure compliance with the performance standard.

[18] Million gallons per day (MGD)
[19] Million gallons (MG)

Within the CMWD service area the existing average daily potable water demand for the previous five years is shown in Table 19 below:

TABLE 19

Fiscal Year	MGD
2015-16	11.4
2016-17	12.1
2017-18	13.4
2018-19	12.4[20]
2019-2020	11.9

Water conservation by CMWD customers has resulted in an overall reduction in per capita consumption. Factors leading to this reduction include (1) an expansion of CMWD's recycled water system beginning in 2008, (2) in 2009, a campaign was initiated to reduce customer consumption by the wholesale water agencies, (3) implementation of a new tiered water rate structure to encourage water conservation, and (4) voluntary and mandatory conservation measures in 2015 in response to drought conditions.

The 10-day storage requirement is a city growth management performance standard and a planning criterion to accommodate pipeline maintenance recommended by the San Diego County Water Authority. To meet the requirement, CMWD needs 131 MG of storage capacity based on the average water demand identified in the 2019 Potable Water Master Plan and 187 MG for buildout conditions. CMWD has a total storage capacity of 242.5 MG which consists of 195 MG of storage capacity at Maerkle Dam and 47.5 MG of storage capacity in various storage tanks throughout the distribution system.

CMWD also has interagency agreements with OMWD, VWD and Oceanside to provide additional supply if needed. In 2004, the OMWD completed construction of a water treatment facility at the San Diego County Water Authority Emergency Storage Reservoir, which provides the storage necessary to meet the 10-day storage criterion for OMWD. VWD's average day demand is 13.3 MGD with an existing storage capacity of 120.5 MG. Through interagency sharing arrangements, VWD can obtain additional water supplies to meet a 10-day restriction on imported water supply.

C. Buildout Facility Adequacy Analysis

As proposed land development projects are reviewed by the city, the Water Master Plans from CMWD, OMWD, and VWD are consulted to check pipeline sizes and facility capacities to verify adequacy to support the water needs of the project and city. To comply with water

[20] Corrected demand for 2018-19 based on potable water sales data.

master plan requirements, land development projects may be required to construct a master plan water project concurrent with construction of the development project.

The CMWD 2019 Potable Water Master Plan identifies facilities necessary to meet water demands for buildout within its service area. These consist of new pipelines and pipeline rehabilitation projects that are programmed into the CIP, some of which may be constructed concurrently with new development projects in the northeastern portion of the city.

The 2019 Potable Water Master Plan identified that no additional storage is required to meet the future storage requirements, due in part to conservation measures and expansion of CMWD's recycled water system.