

Infrastructure 7

This chapter describes the infrastructure needed as this plan is developed. This includes water, sewer, stormwater, and electric and gas utilities, as well as telecommunications infrastructure and parks and open space needs. Complete background information on these topics is available in the Existing Conditions Report that serves as a companion document to this Plan.

Figure 7-1 presents a summary of the infrastructure needs identified in this chapter. It identifies new roadways, bicycle and pedestrian facilities, water and sewer infrastructure, and parks and open space needs. Please see Chapter 6: Transportation of this Plan for further discussion of roadways as well as bicycle and pedestrian facilities.

A. Water Supply

Water supply is important to support development, particularly in drought-prone, California. This section evaluates the potential need for water-related infrastructure in the Station Area.

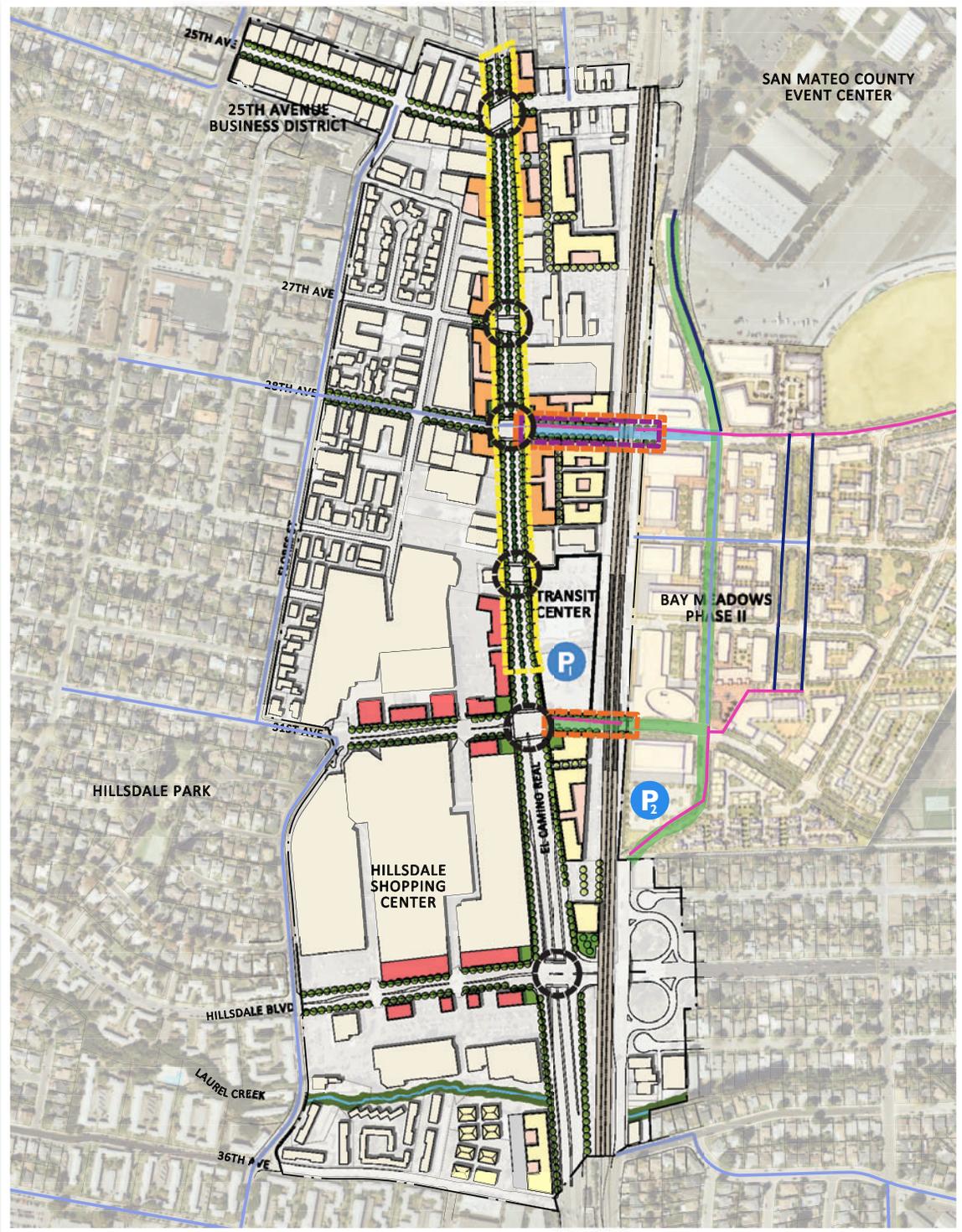
1. Existing Conditions

The Station Area receives water service from California Water Service Company (Cal Water). This area is within Cal Water's Mid-Peninsula District, which serves the cities of San Mateo and San Carlos. This District is dependent on water purchased from the San Francisco Public Utilities Commission (SFPUC). The existing water supply system in the Station Area consists of 6- to 12-inch lines in El Camino Real, connecting to perpendicular streets. This system is fed by a 24-inch main from the north. There are no reports of low flows or lack of pressure within the Station Area. Current supply is sufficient to meet projected demand.

2. Projected Demand

Table 7-1 shows projected domestic water demand for development of this Plan. These calculations are based on rates for the Bay Meadows Phase I development. The Water Supply Assessment prepared for the TOD Rail Corridor Plan and Bay Meadows Phase II indicates that there will be adequate supplies to meet projected demands under normal, single dry year, and multiple dry year conditions. Since the proposed redevelop-

Figure 7-1: Infrastructure Needs



* Required only if the development does not connect to the 12" line along the west side of El Camino Real (preferable).

Table 7-1 Domestic Water Demand under Station Area Plan

Use		Units	GPD/ Units	GPD	G/Yr.	AFY
Residential	existing:	68	78.0	5,304	1,935,960	5.9
	planned:	819	78.0	63,882	23,316,930	71.6
	net:	751		58,578	21,380,970	65.6
Commercial		SF				
Office	existing:	101615	0.01227	1,247	455,086	1.4
	planned:	101615	0.01227	1,247	455,086	1.4
	net:	0		0	0	0.0
Retail	existing:	1516949	0.05040	76,454	27,905,786	85.7
	planned:	1517527	0.05040	76,483	27,916,424	85.7
	net:	578		29	10,637	0.0
Service/Warehouse	existing:	208990	0.01277	2,669	974,115	3.0
	planned:	159117	0.01277	2,032	741,652	2.3
	net:	-49874		-637	-232,463	-0.7
Vacant	existing:	7651	0.0	0	0	0.0
	planned:	7651	0.0	0	0	0.0
	net:	0		0	0	0.0
Net Total		-48,544		57,970	21,159,144	65

* Residential is assumed to be all multi-family.

* Demand is based on rates from existing Bay Meadows Phase I development as reported by Calwater for the Bay Meadows Phase II Specific Plan. New development and redevelopment within the Station Area will feature low-flow bath and kitchen fixtures in accordance with state and local law, and will likely feature more drought-tolerant landscaping. Therefore, the actual net increase in water demand within the Station Area may be significantly lower than the estimated numbers above.

ment under this plan is consistent with the planned land uses evaluated at the time of the Water Supply Assessment, they would likely have adequate water supply as well. Implementation of water conservation measures will reduce this additional demand.

GPD = Gallons per Day
G/Yr. = Gallons per Year

The required fire flow for a particular development will most likely dictate whether upgrades to the existing water lines will need to be made. The fire demand will depend on the construction and type of development. This demand will need to be assessed at the time a specific development proposal is presented.

3. Improvements Needed

Very limited improvements to the water supply system are expected for implementation of this Plan. The City's General Plan Goal 8d requires a citywide reduction of water use. Even without this reduction, it is anticipated that water allocations will be sufficient to support the Station Area. New development to east side of El Camino Real, and along the proposed 28th Avenue connection may result in a need to upgrade the existing waterline to accommodate required fire flow. Redevelopment on the east side of El Camino Real is served by a 6-inch line which may need to be expanded, unless the development can connect to the 12-inch line along the west side of El Camino Real. The extension of 28th Avenue between El Camino Real and Delaware Street provides an opportunity to include a water line connection to improve the water flow in the existing El Camino Real 6-inch line by connecting it to the 24-inch line in Delaware.¹

B. Sewer

Sewer infrastructure is important to support development, and timing such improvements in conjunction with new development has been a key focus of the City of San Mateo's efforts.

1. Existing Conditions

The existing sewer collection facilities within and near the Station Area include the Mongini and Santa Clara Pump Stations, a 24-inch trunk line in Delaware Street, a 15-inch to 21-inch trunk line in El Camino Real, and 8-inch to 18-inch collector lines off the El Camino Real trunk line.

The City has identified a number of system capacity limitations related to the South Trunk system and is in the process of correcting these deficiencies. As development mitigation measures, fees have been collected from developers to fund these improvements.

2. Projected Demand

Projected sewer generation rates are shown in Table 7-2, based on City standard rates. This additional wastewater can easily be accommodated with the existing infrastructure during dry weather. For wet weather flows, during storm events, it is expected that the planned Southern Trunk relief line will accommodate the increased flows.²

¹ California Water Service. Meeting with Jason Mansfield, BKF Engineers, August 30, 2010.

² City of San Mateo. Meeting with Jason Mansfield, BKF Engineers, August 30, 2010.

Table 7-2 Wastewater Generation under Station Area Plan

Use		Units	GPD/ Units	GPD	Million GPD
Residential	existing:	68	180	12,240	0.01
	planned:	819	180	147,420	0.15
	net:	751		135,180	0.14
Commercial		SF			
Office	existing:	101615	0.10	10,161	0.01
	planned:	101615	0.10	10,161	0.01
	net:	0		0	0.00
Retail	existing:	1516949	0.10	151,695	0.15
	planned:	1517527	0.10	151,753	0.15
	net:	578		58	0.00
Service/Warehouse	existing:	208990	0.10	20,899	0.02
	planned:	159117	0.10	15,912	0.02
	net:	-49874		-4,987	0.00
Vacant	existing:	7651	0.0	0	0.00
	planned:	7651	0.0	0	0.00
	net:	0		0	0.00
Net Total		-48,544		130,250	0.13

* Residential is assumed to be all multi-family.

* Generation rates are based on City rates as identified in the Bay Meadows Phase II Specific Plan EIR.

GPD = Gallons per Day

3. Improvements Needed

Sewer conveyance and treatment systems in the Station Area are nearing capacity. Development of this Plan will result in increased housing development and decreased retail development. This transition will likely result in a very limited increase in demand for sewer capacity. Implementation of water conservation devices would reduce this increase in demand to an even smaller level. Individual projects may be required to prepare individual sewer capacity analysis based on the location in the Station Area.

In accordance with current City practices, when projects are proposed within the Station Area, they will be required to pay Development Impact Fees to fund needed

infrastructure and phase the infrastructure such that it is in place ahead of demand. In combination with the improvements already planned with Bay Meadows Phase II and the Southern Trunk relief line, the system is expected to be able to accommodate development of this Station Area Plan.

C. Storm Drain

This section evaluates the potential need for storm drain-related infrastructure in the Station Area.

1. Existing Conditions

Within San Mateo, surface runoff generally drains in an easterly direction into San Francisco Bay. Several places in and near the Station Area have storm drainage system capacity limitations. These include a narrow strip of land immediately east of the railroad tracks from just south of 19th Avenue to just north of 25th Avenue, a narrow strip of land running east-west from Delaware Street to between Flores and Hacienda Streets just north of 25th Avenue, and an area immediately east of El Camino Real at East Hillsdale Boulevard.³

Existing flooding downstream indicates the current stormwater runoff exceeds the capacity of the system. The existing runoff from the Station Area is a function of the impervious surfaces within the Station Area. Because the area was fully developed prior to current stormwater quality and quantity regulations, there is extensive impervious surface cover, creating a relatively large quantity of runoff compared to more suburban and rural areas.

2. Projected Demand

While capacity issues with the storm drain system have been identified, the San Francisco Bay Regional Water Quality Control Board's C3 stormwater regulations currently require post-development runoff to be equal to, or less than, existing runoff. With much of the Station Area already built out and with mostly impervious surfaces, any additional demand on the system will be caused by development upstream and not by development within the Station Area. Therefore, it is anticipated that no additional demand will be placed on the existing stormwater infrastructure by development within the Station Area.

³ EDAW, 2010. *San Mateo Corridor Plan and Bay Meadows Specific Plan Amendment*, pages 4.8-16 to 4.8-17. Prepared for the City of San Mateo Community Development Department.

3. Improvements Needed

Implementation of this Plan will consist of redevelopment of currently developed areas. These areas will be subject to the C3 regulations described in the prior section. Therefore, the redevelopment is expected to have no effect or, potentially, a positive effect on stormwater runoff in the Station Area and is not expected to result in a need for infrastructure improvements.

D. Telecommunications

Telephone and cable services provide crucial connections between Station Area businesses and the world.

1. Existing Conditions

AT&T provides local telephone service to the City of San Mateo, while a variety of providers supply cable television service to the Plan Area, including Comcast, Dish Network, DIRECTV, Cox Cable, Time Warner, and others.⁴ Wireless telephone service is provided by a range of operators, including Verizon, Sprint, T-Mobile, and AT&T. High speed internet access is supplied by Comcast, Dish Network, DIRECTV, Cox Cable, Time Warner, NetZero, Earthlink, ATT, CNET, and other providers.⁵

2. Projected Demand

Throughout the San Francisco Bay Area, demand for telecommunications products and services has increased steadily in recent years, and the industry has responded by providing a wider range of services. Future demand for telecommunications products and services in the Station Area is expected to mirror that trend.

3. Improvements Needed

Telecommunications service providers are making on-going improvements to their service infrastructure region-wide. These improvements will continue to serve the Station Area throughout implementation of this Plan.⁶

⁴ Superpages.com, San Mateo Cable TV service providers, <http://www.superpages.com/ca/san-mateo/>, accessed on October 28, 2010.

⁵ Superpages.com, San Mateo High Speed Internet providers, <http://www.superpages.com/ca/san-mateo/>, accessed on October 28, 2010.

⁶ City of San Mateo, 2009, General Plan Update Draft EIR, page 4.11-44-45.

E. Gas & Electric

Gas and electric services are necessary for any new development in the Station Area. Development in the Station Area will primarily be infill development in places with existing power lines.

1. Existing Conditions

Pacific Gas and Electric (PG&E) provides electricity and natural gas to the City of San Mateo, including the Station Area.

2. Projected Demand

Implementation of the Plan would result in increased demand for gas and electricity in the Station Area; however, additional demand would come incrementally as the Plan is built out over a period of 20 years. Based on the current average annual household consumption rates for the City of San Mateo, it is anticipated that an additional 123,861,750 kilowatts of electricity and 36,450,000 cubic feet of natural gas would be required annually at full buildout of the Plan in 2030.⁷ Technological advances are expected to improve the energy efficiency of heating and cooling systems, as well as home appliances over the 20-year horizon of the Plan. Additionally, demand for gas and electricity would be tempered with strategies and policies from the General Plan and Sustainable Initiatives Plan designed to reduce energy use and encourage conservation. Continued implementation of the Green Building Ordinance, which includes numerous measures to promote increased energy efficiency in building design, is also expected to moderate future demand for gas and electricity in the Station Area.

3. Improvements Needed

PG&E anticipates that it will be able to continue to serve the Station Area through ongoing upgrades to the gas and electricity transmission and generation systems, as well as conservation measures.⁸ As the Plan is built out, infrastructure requirements will be assessed on a project-by-project basis at the time of application in accordance with California Public Utilities Commission Rules of Practice and Procedure.⁹

⁷ The 2007 City of San Mateo Greenhouse Gas Inventory Report cites average annual household consumption of electricity as 5,149 kWh/year and average annual household natural gas consumption as 486 therms/year, where 1 therm is the equivalent of burning 100 cubic feet of natural gas. These consumption rates were multiplied by an additional 750 households anticipated in the Station Area at full buildout in 2030 to arrive at the estimated future demand figures for gas and electricity.

⁸ City of San Mateo, 2009, General Plan Update Draft EIR, page 4.11-44.

⁹ Wilfred Albovias, Service Planning Department, PG&E. Personal Communication with DC&E, November 16, 2010.

F. Parks & Open Space

Access to parks and other open space is important to residents and visitors alike. In the Station Area, this access is particularly important because most current and future residents will live in multi-family homes with limited private open space areas.

1. Existing Conditions

Laurel Creek is the only existing area of natural open space in the Station Area; however, a large portion of the Station Area is within one-third mile of East Hillsdale Park. There are also three planned park facilities on the Bay Meadows Phase II Project site, within one-half mile of the Station Area. Together, these four facilities provide access to approximately 17 acres of parkland within a half-mile radius of the Station Area. In addition, several schools in the vicinity of the Station Area offer access to recreational facilities, such as ball fields and tennis courts. Finally, residents of the Station Area have access to three regional recreational facilities in San Mateo: Sugarloaf Mountain/Laurelwood Park, Marina Lagoon, and San Francisco Bay Shoreline Park.

2. Projected Demand

Currently, the ratio of parks to residents in the City of San Mateo is approximately 4.9 acres per 1,000 residents. This city-wide ratio is expected to fall to 3.93 acres per 1,000 residents by 2025.¹⁰ While the projected ratio of parks to residents would not meet the target of 6 acres per resident established in the General Plan, it would exceed the National Recreation and Park Association standard of 2.5 acres per 1,000 residents.

3. Improvements Needed

This Plan calls for pedestrian-oriented plazas in building setbacks along the commercial corridors in the Station Area, which would provide open space for shoppers, commuters, and residents to use. These plazas are expected to be developed in conjunction with new buildings. A larger plaza is also anticipated as part of the relocated transit center and will need to be developed by the City of San Mateo in cooperation with Caltrain. Additionally, future residents of the Station Area will benefit from better access to Bay Meadows Phase II park facilities when 28th and 31st Avenues are extended from El Camino Real through the Bay Meadows road network.

¹⁰ City of San Mateo, 2009, *General Plan Update Draft EIR*, page 4.11-48.

As was described in the existing conditions section above, Station Area residents will have access to approximately 17 acres of parkland within a half-mile radius of their homes. This will provide sufficient access to parks along with regional open space, so the only improvements to be made are the plazas described above.

G. Infrastructure Improvement Phasing and Financing

The infrastructure needs identified below, as well as those included in Chapter 6: Transportation, are summarized in Figure 7-1.

1. Water Supply

Water distribution facility improvements are implemented by Cal Water's regular Capital Improvement Program. Currently Cal Water has no improvements scheduled within the Station Area.¹¹ However, as shown in Figure 7-1, improvements such as the waterline expansions will be required as needed by a particular development. These would be the responsibility of the developer during construction of that specific project. Because the anticipated upgrades required are limited to those mentioned above, it would be expected that, as each project in the Station Area is developed, that developers would be responsible for any required upgrades.

2. Sewer

As noted above, in accordance with current City practices, when projects are proposed within the Station Area, they will be required to pay Development Impact Fees to fund needed infrastructure and phase the infrastructure such that it is in place ahead of demand. These fees would fund any required sewer improvements. Figure 7-1 shows only sewer line expansions along with the extension of 28th and 31st Avenues. These would take place only as the opportunity arises along with the roadway extensions.

Sewer system improvements will be made according to the capital improvement program in place, based on the 2005 Citywide Sewer System Study, and subsequent updates. As each specific redevelopment project is proposed, the project needs will have to be evaluated.

3. Storm Drain

Stormwater improvements would be limited to work on-site and would be the responsibility of the developer during construction of that specific project.

¹¹ Cal Water. Meeting with Jason Mansfield, BKF Engineers, August 30, 2010.

4. Telecommunications

Telecommunications services are provided by private operators whose capital improvement plans are funded through the fees they receive from retail customers. Providers will implement capital improvements as required in accordance with their capital improvement plans.

5. Gas & Electric

Since 2001, PG&E has operated as an independent, investor-owned company and as such capital improvements are funded through the fees they receive from retail customers. Additionally, prior to approval, individual development projects resulting from buildout of the Plan will require separate review by utilities providers in order to ensure that sufficient service capacity exists.

6. Parks & Open Space

New multi-family residential development in the Station Area will be subject to park impact fees established in Title 13.05 070 of the City of San Mateo Municipal Code, which augment funding for parks close to the Station Area as well as city-wide.¹² Plazas proposed in the Plan will be constructed by private developers as new building occurs following the guidance of this Plan and other City of San Mateo regulations. Finally, the plaza associated with the relocated Transit Center will need to be completed simultaneously with the relocation of Hillsdale Station.

H. Infrastructure Goals and Policies

Please note that in addition to the goals and policies listed below, the City's General Plan includes city-wide goals and policies related to infrastructure, all of which continue to apply within the Station Area. These goals and policies provide amplification of important points related to the future development of the Station Area, but do not duplicate the policy statements in the General Plan.

Goal INF-1: Provide funding to support necessary infrastructure improvements in the Station Area.

Policy INF-1.1: Ensure that private development provides its fair share of funding for necessary improvements to infrastructure in the Station Area.

¹² City of San Mateo municipal code is accessible online at: <http://www.cityofsanmateo.org/index.aspx?NID=164>

Policy INF-1.2: Use City-collected Development Impact Fees to implement area-wide improvements, supplementing those with regional, State, and federal grant funds as-needed to support improvements.

Policy INF-1.3: Work with non-City service providers, including telecommunications and gas and electric providers to ensure that infrastructure is expanded in conjunction with development.

Goal INF-2: Provide adequate sewer service and water supply for existing and new development in the Station Area.

Policy INF-2.1: Ensure that water supply infrastructure and wastewater infrastructure are developed in advance of new development in the Station Area.

Policy INF-2.2: As downstream improvements are constructed with modifications to the railway, capacity should accommodate the potential redevelopment in the Station Area. Facilities should not be sized for a lower capacity than the existing adjacent facilities. Larger sized water lines could be placed in the potential roadway connections at the grade separations if the roadway connection projects are tied to the railway improvements.

Goal INF-3: Provide adequate stormwater drainage for existing and new development in the Station Area.

Policy INF-3.1 Ensure that new development meets or exceeds storm drainage requirements, with a focus on providing green infrastructure solutions for stormwater management.

Policy INF-3.2 Work with developers and the San Francisco Bay Regional Water Quality Control Board to encourage innovative treatment and detention methods, particularly methods that reduce the need for on-site mitigation.

Goal INF-4: Provide access to park and open space areas sufficient for Station Area residents and visitors.

Policy INF-4.1 Work with City of San Mateo Parks and Recreation as well as regional open space providers to ensure that Station Area residents have access to sufficient park areas, most of which are outside of the Station Area. Access includes bicycle and pedestrian connections that are clear, as well as signage so that residents and visitors know where parks are located.