

## UTILITIES AND PUBLIC SERVICES **9**

As development proceeds in the Plan Area, the utility infrastructure will need to be improved, and public services extended. In addition, an augmented water supply will be needed. This chapter summarizes the modifications and additions required to support the Specific Plan development.

## Water Supply

The City’s entire municipal water supply and approximately 90 percent of the City’s water comes from the San Francisco Public Utilities Commission (SFPUC) aqueduct. Two smaller companies serve areas in East Palo Alto outside the plan area from private groundwater sources. Eighty-five percent of the SFPUC water comes from the Hetch Hetchy Reservoir in the Sierra Nevada’s, and the remaining 15 percent comes from Bay Area reservoirs in the Alameda and Peninsula watersheds.<sup>1</sup>

The City and Specific Plan’s water use in 2011 and at buildout was described in both the 2010 Urban Water Management Plan (UWMP) and a separate 2011 Water Supply Assessment (WSA) for the Specific Plan Area.<sup>2,3</sup> In 2010, the total water demand was 1,906 acre feet per year (AFY), or 1.7 million gallons per day (MGD). The total water use was 2,033 AFY (1.81 MGD), which includes the approximately eight percent of unaccounted water lost in the system due to leaks. The City has purchased more water from SFPUC than its guaranteed allocation in several years since 2002. This has been possible only because other users have not purchased their entire allocation.

As part of the adoption of its Water System Improvement Program in October 2008, SFPUC is limiting its sales of water to each customer until 2018. It has established an Interim Supply Allocation of 2,199 AFY (1.96 MGD) for East Palo Alto. In times of drought, this would be less.

The UWMP and WSA included projections for future water demand until 2035. Buildout under the Specific Plan was included in these figures. Table 9-1 shows water demand per sector for the whole of East Palo Alto at five-year increments and total water use for a normal water year, single dry year, and multiple dry years.

Water demand from the development under the Specific Plan was included in these calculations as per the totals in Table 9-2. For detailed information on the phasing that was assumed, refer to the UWMP.

---

<sup>1</sup> San Francisco Public Utilities Commission, 2005, *2005 Urban Water Management Plan for the City and County of San Francisco*, page 11.

<sup>2</sup> Integrated Resource Management, Inc, 2010. *City of East Palo Alto 2010 Urban Water Management Plan*. July 2011.

<sup>3</sup> Integrated Resource Management, Inc, 2011. *Water Supply Assessment. Ravenswood/4 Corners Transit Oriented Development Specific Plan*. For the City of East Palo Alto. Final Draft. August 30, 2011. Note: This used essentially the same estimates for buildout as the Urban Water Management Plan

TABLE 9-1 **WATER SUPPLY AND DEMAND FOR EAST PALO ALTO IN ACRE FEET PER YEAR**

	2015	2020	2025	2030	2035
<b>Normal Water Year</b>					
Supply totals	2,199	2,199	2,199	2,199	2,199
Demand totals	2,658	2,780	2,960	3,161	3,400
Surplus or (Shortfall)	(459)	(581)	(761)	(962)	(1,201)
<b>Single or Multiple Dry Years<sup>a</sup></b>					
Supply Totals	2,033	2,033	2,033	2,033	2,033
Demand Totals	2,658	2,780	2,960	3,161	3,400
Surplus or (Shortfall)	(625)	(747)	(927)	(1,128)	(1,367)

<sup>a</sup> Figures are the same for a single dry year or for the first, second and third dry year under the multiple dry year scenario.  
 Source: City of East Palo Alto, 2011. *Urban Water Management Plan*.

TABLE 9-2 **SPECIFIC PLAN WATER DEMANDS**

Land Use	Acres	Acre Feet Per Acre	Water Demand (Acre Feet)
Residential (Single-Family)	0.75	9.33	7.00
Residential (Mixed-use)	20.12	16.02	322.28
Industrial	23.78	10.19	242.35
Commercial	26.78	7.99	214.19
Municipal (Including Parks)	31.2	1.11	34.49
<b>Total</b>	<b>102.63</b>	<b>7.99</b>	<b>820.31</b>

Source: Integrated Resource Management, Inc, 2011. Water Supply Assessment. Ravenswood/4 Corners Transit Oriented Development Specific Plan. For the City of East Palo Alto.

Buildout of the Specific Plan would therefore require 820 acre feet per year of water. Compared to the current water demand, this is an increase of 41 percent. It would be 60 percent of the total demand increase in 2035. The UWMP evaluated various options to increase the supply and proposed augmenting it by pumping and treating from the existing Gloria Bay well, installing new

groundwater wells, and using recycled water. An increase in the supply by these or other methods would have to undergo separate CEQA review at the project level to ensure feasibility and avoid unacceptable environmental consequences.

## Utility Infrastructure

The utility infrastructure throughout the Plan Area is inadequate, and much of it does not meet current minimum standards. A plan for the upgrades required to serve development under the Specific Plan has been proposed by Wilsey Ham Engineers in a October 2008 Draft Engineering Plan (DEPLAN) for the Ravenswood Business District.<sup>4</sup> Although the DEPLAN predates the Specific Plan, Wilsey Ham has reviewed the Specific Plan’s development projections and verified that the DEPLAN’s engineering calculations are still valid.<sup>5</sup>

The following sections describe the service providers and their role in providing utilities to the Plan Area, as well as the new infrastructure described in the DEPLAN. Additional information, including figures showing the pipe layout, is provided in the Specific Plan EIR, Section 4.15, Utilities and Service Systems.

### Water

The water system for the Plan Area is managed by American Water Enterprises under contract with the City. A new system of 12-inch water pipes would be required for the Plan Area. This additional system would also provide more security in the event of damage to the existing system. Water would be supplied under pressure from a new connection to the SFPUC aqueduct at Purdue Avenue. Water would be used for fire suppression in addition to consumption. A new 1.8 million gallon water tank would provide much-needed emergency storage for the City’s municipal water customers, and provide a fire flow of 3,000 gallons per minute, as recommended by the Menlo Park Fire Protection District (MPFPD).

Planned new water supply infrastructure is described in Table 9-3.

---

<sup>4</sup> Wilsey Ham, 2008. *Draft Engineering Plan (DEPLAN) for the Ravenswood Business District (RBD)*. October 31, 2008.

<sup>5</sup> Email from Sean Charpentier to DC&E, January 27, 2011.

TABLE 9-3 **RECOMMENDED IMPROVEMENTS TO WATER SUPPLY INFRASTRUCTURE**

Section	Location	Description
SFPUC right-of-way at Purdue Avenue		New connection to SFPUC Hetch Hetchy aqueduct
Purdue Avenue and Demeter Street	From SFPUC r-o-w to Bay Road	12" main
Pulgas Avenue north of Bay Road	From ~400 feet south of 391 Demeter Street property to Bay Road	12" main
Tara Street	From the current end of Tara Street to Bay Road	12" main
Tara Street eastern extension	From the northern Plan edge east to the proposed water tank.	12" main
Bay Road	From Clarke Avenue east to Plan Area boundary	12" main
Pulgas Avenue south of Bay Road	From Bay Road to Weeks Street	12" main
Weeks Street	From Clarke Avenue east to Plan Area boundary	12" main
Throughout the Plan Area		6" and 4" pipes
Tara Street termination		1.8 million gallon storage tank

**Wastewater**

There is a divide in the drainage system along a line running approximately east-west at the southern margin of the 391 Demeter Street property.<sup>6</sup> South of this divide, gravity-driven flows in the sanitary sewer and storm sewer system are southwards. North of this divide, gravity-driven flows are northwards. Because of this divide, the Specific Plan area is served by two different sanitary districts.

Wastewater conveyance and treatment services to the northern half of the Plan Area are provided by the West Bay Sanitary District (WBSD). Wastewater collected within the WBSD service area is treated at the South Bayside System Authority Regional Treatment Plant (SBSARTP), which is owned and operated by the South Bayside System Authority. The capacity of the SBSARTP is 29 MGD.

---

<sup>6</sup> The 391 Demeter Street property has a triangular-shaped portion that would be designated as Industrial/Office Flex under the Plan and an area with wetlands that would be designated as Resource Management. The triangular shaped portion has also been referred to as the “Stanford Fill” area.

Of this total, WBSD is allocated a total treatment capacity of 6.6 MGD for dry weather flow and 14.4 MGD of peak wet weather flow at the SBSARTP.<sup>7</sup>

The East Palo Alto Sanitary District (EPASD) serves the southern half of the Plan Area, which is where most development activity would occur. Wastewater collected by EPASD is treated at the Palo Alto Regional Water Quality Control Plant (PARWQCP), which is owned and operated by the City of Palo Alto.

The DEPLAN reviewed the capacity of the existing wastewater system of the Plan Area and described plans for upgrades that are within the jurisdiction of EPASD.<sup>8,9</sup> No upgrades are included for the northern part of the area under the jurisdiction of WBSD. Planned new sanitary sewer infrastructure for the southern part of the Plan Area is described in Table 9-4.

The proposed new Ravenswood Business District sewer system would be gravity-driven and connect with the existing EPASD system at the eastern end of Weeks Street. Sewage would then flow to an existing pipe in the levee to the Palo Alto Regional Water Quality Control Plant, south of the Palo Alto Airport. Replacement of the pipe in the levee may not be necessary for several decades until sufficient development has occurred to warrant it. The timing of this replacement would be determined by the East Palo Alto Sanitary District.

### **Stormwater**

In most of the Plan Area, south of the topographic divide that is approximately at the southern boundary of 391 Demeter Street, stormwater flows southwards into the Runnymede Storm Drain System. Since the 391 Demeter Street property drains northwards and cannot be connected to the gravity-driven system of the rest of the plan area, development of this property would require a separate storm drain system.

Stormwater infrastructure within the Plan Area is currently inadequate and is one of the causes of flooding in the Plan Area. Currently many of the streets in the Plan Area do not have storm drains, and those that do are unable to handle stormwater during peak events.

---

<sup>7</sup> San Mateo LAFCO, 2009, *Municipal Service Review and Sphere of Influence Update for the West Bay Sanitary District*, page 5.

<sup>8</sup> During the planning process, EPASD was consulted in detail and supports the current planned improvements to the wastewater system.

<sup>9</sup> City of East Palo Alto, 2009, *City Staff Report on Draft Engineering Plan for the Ravenswood Business District (RBD)*, page 5.

TABLE 9-4 **RECOMMENDED IMPROVEMENTS TO SANITARY SEWER INFRASTRUCTURE**

Section	Location	Pipe Diameter
Demeter Street	From Purdue Avenue to Bay Road	8"
Pulgas Avenue north of Bay Road	From the new connector road to Bay Road	8"
Tara Street	From the current end of Tara Street to Bay Road	8"
Bay Road	From Clarke Avenue east to Pulgas Avenue	15" to 18"
Bay Road	From Pulgas Avenue to 200 feet west of Plan Area boundary	8" to 12"
Pulgas Avenue south of Bay Road	From Bay Road to Weeks Street	21"
Weeks Street	From Clarke Avenue east to Pulgas Avenue	8"
Weeks Street	From Pulgas Avenue east to Plan boundary	21"
Levee	Weeks Street to Treatment Plant south of Palo Alto Airport	18" to be upgraded later to 21"

The DEPLAN reviewed the capacity of the existing storm sewer system in the southern portion of the Plan Area and proposed construction of a new, additional, Ravenswood Storm Sewer System to join the Runnymede system at the point of discharge into the existing surface channel at the end of Runnymede Street. The channel runs parallel to the levee to the O’Connor pumping station, where the water is pumped over the levee back to the Bay. Components of the new Ravenswood Storm Drain System are described in Table 9-5.

In addition, the stormwater channel from the end of Runnymede Street to the detention basin on O’Connor Street would be dredged, graded, and culverted next to the levee to take 100-year flows. A berm would be built along the west side of the length of the detention channel to restrict the main channel overflows and allow water to back up from the pumping station and be held in the channel. The detention basin would also be dredged and enlarged to provide additional storage capacity. The City is already moving forward with the off-site improvements associated with the Runnymede Storm Drain Phase II Project, which include the channel and pond improvements.<sup>10</sup>

<sup>10</sup> City of East Palo Alto website. <http://www.ci.east-palo-alto.ca.us/planningdiv/runnymede.html>, accessed September 1, 2011.

**TABLE 9-5 RECOMMENDED IMPROVEMENTS TO STORM SEWER INFRASTRUCTURE**

Section	Location	Description
Demeter Street	From ~250 feet south of Purdue Avenue to ~200 feet north of Bay Road	Storm drain force main 18" to 36"
Pulgas Avenue north of Bay Road	From the new connector road to ~200 feet north of Bay Road	Storm drain force main 18" to 36"
Tara Street	From the just north of the connector road to Bay Road.	Storm drain force main 18" to 36"
Bay Road	From near Plan boundary for approximately 600 feet	Storm drain force main 18" to 36"
Bay Road	From ~600 feet east of Tara Street to Pulgas Avenue and from Demeter Street to Pulgas Avenue	Storm drain pipe 42" to 54"
Pulgas Avenue south of Bay Road	From Bay Road to Weeks Street	Storm drain pipe 66"
Weeks Street	From halfway between Clarke Avenue and Pulgas Avenue to Pulgas Avenue, and from the current termination of Weeks Street to Pulgas Avenue	Storm drain pipe 24" to 42"
Pulgas Avenue south of Weeks Street	Weeks Street to Runnymede Street	Storm drain pipe 66"
Runnymede Street	Pulgas Avenue to levee	2, 3' x 5' box culverts
Channel next to levee	Runnymede Street to detention pond and O'Connor Street Pumping Station	Dredging, grading, culverting. Berm added on western side.

The new system would be designed to protect most of the Plan Area for which redevelopment is proposed from flooding as a consequence of storm drain back-up. The system would be designed to cope with the largest storm that could realistically be expected once every 25 years (the 25-year storm).

**Electricity, Phone, Cable, and Internet**

The Plan Area would continue to be served with electric, gas, telephone, cable, and internet service from private companies serving the City, as detailed below (see Table 9-6).

The DEPLAN also considered provision of electricity and gas lines, as well as telephone and fiber optic cables. Existing overhead electric lines would be removed and undergrounded on major streets. Several electricity transfer stations would be built along the underground lines. Some of the buried conduits would be placed in joint trenches carrying electrical power, cable TV, phone, fiber optic, and gas lines. Table 9-7 describes the changes and additions to the existing system.

TABLE 9-6 **OTHER UTILITY PROVIDERS**

Electricity	Pacific Gas & Electric Company (PG&E)
Gas	PG&E
Telephone	AT&T + others
Cable TV and Internet	Comcast, AT&T + others

TABLE 9-7 **RECOMMENDED IMPROVEMENTS TO ELECTRICITY, GAS, PHONE, AND FIBER OPTIC LINES**

Section	Location	Description
Demeter Street	From Purdue Avenue to Bay Road	Overhead electric wires to be removed and undergrounded in proposed joint trench
Pulgas Avenue north of Bay Road	From the new connector road to Bay Road	Overhead electric wires to be removed and undergrounded in proposed joint trench
Tara Street	From just north of the connector road to Bay Road	Overhead electric wires to be removed and undergrounded in proposed joint trench
East of Tara Street	From ~300 feet north of Bay Road to Bay Road	Overhead electric wires to be removed and undergrounded
Bay Road	From near Plan Area boundary to Pulgas Avenue	Overhead electric wires to be removed and undergrounded in proposed joint trench

**Phasing**

The DEPLAN included a preliminary phasing plan to ensure that utilities are in place as the street network is redeveloped. Development of the necessary area-wide utility infrastructure is anticipated to be completed in five phases (Phase I and Phases IIa through IIc), as discussed below.

Phase I would include buildout of Bay Road from University Avenue to Tara Street. In order to build out the complete utilities and roadway improvements of Bay Road, the gravity utilities must be constructed in Bay Road and south of Bay Road on Pulgas Avenue, Weeks Street, and Runnymede Street, and the dredging of the new 2,100-foot channel to the detention pond at the O’Conner Pump Station must also be completed. Additionally, all of the utilities down-

stream of Bay Road need to be installed for the Bay Road drainage and wastewater system to maintain positive flow to the existing downstream connections. Since trenching will be taking place for the gravity utilities, the remaining utilities will be required to be installed during this phase so that the roadway can be reconstructed after all of the utilities are in place.

The timing and order of the remaining phases (IIa, IIb, IIc, and IId) have not been determined. Implementation of these phases will depend on the timing of new development.

## **Public Safety**

In the Plan Area, public safety services are primarily provided by the East Palo Alto Police Department (EPAPD) and the Menlo Park Fire Protection District (MPFPD). Chapter Ten, Implementation discusses these issues further by describing the fiscal impacts associated with new development anticipated in the Specific Plan Area.

### **Police Services**

New growth resulting from the Specific Plan could increase the citywide population by approximately ten percent. Assuming that current law enforcement needs were to increase proportionately to the population, there would be an additional need for police personnel, equipment, and/or police facilities.

However, this increase would occur gradually over time. It will be possible to assess the need for additional personnel and equipment on an ongoing basis, and to address these needs at the appropriate time to ensure that the law enforcement needs in the community are addressed.

### **Fire Protection Services**

New growth resulting from the Specific Plan would increase the demand for fire protection and emergency services in East Palo Alto such that new fire protection facilities, personnel, and equipment would be needed and response times could be reduced.

East Palo Alto's MPFPD station would need to be expanded, and additional equipment and approximately 2.7 additional personnel would be needed to accommodate the proposed growth. Although the MPFPD currently has plans to expand this station, the expansion did not take into account the Specific Plan and other recently proposed projects within the jurisdiction of the MPFPD. Since the Specific Plan would contribute to the need for the expansion of East

Palo Alto's fire station, the MPFPD expects that new development would contribute to the expansion costs.

## Cultural, Institutional, and Civic Uses

This Specific Plan's Vision and Concept proposes a number of new facilities and buildings for cultural, institutional, and civic uses. These facilities will contribute to creating a desirable living environment in the Plan Area and will help fulfill the community's desire to establish Ravenswood/4 Corners as the cultural hub of the City. Although the Vision and Concept identifies a number of possible locations for these uses, it is likely that they will also be able to locate in other parts of the Plan Area, depending on the exact nature of each use.

As the Specific Plan is implemented, the City will work diligently to encourage developers to provide space in their buildings for cultural, institutional, and civic uses. The City may also choose to undertake some projects on its own, such as the construction of a performing arts center. However, this can occur only if a funding source is identified for the new facilities.

The Vision and Concept also proposes that San Mateo County public library services be expanded in the Plan Area. The City's current library is located inside the San Mateo County East Palo Alto Government Center, also known as City Hall. If feasible, the library could expand within this building, enlarge the existing building to allow for expansion, or relocate to another property near 4 Corners.

## Schools

East Palo Alto, including the Plan Area, is served by two school districts: Ravenswood City School District and Sequoia Union High School District.

The Ravenswood City School District would not have adequate capacity for the new students that would be generated by the projected buildout of the Specific Plan. However, the Sequoia Union High School District would have adequate capacity for the new students that would be generated.

Future development under the Specific Plan would be required by existing State law to pay development impact fees to each school district at the time of the building permit issuance. These fees will be used by the school districts to mitigate long-term operation and maintenance impacts on school facilities associated with new development.

In addition to the existing schools within these two school districts, a school could potentially be developed east of Clarke Avenue and south of Bay Road, as stated above in the *Cultural, Institutional, and Civic Uses* discussion.

## **Parks, Open Space, and Trails**

Parks, open space and trails are an important component of East Palo Alto's identity. They provide a variety of recreational opportunities for the enjoyment and well-being of the city's residents.

As shown in Chapter Four, Vision and Concept, several new parks, open space areas and trails are recommended for the Plan Area. The Vision and Concept shows potential park opportunities in several locations, including at the entrance to Cooley Landing; south of Weeks Street in the southeast corner of the Plan Area; at the corner of Pulgas Avenue and Bay Road; and as part of a larger redevelopment project at the 391 Demeter Street site, near the terminus of Demeter Street and Purdue Avenue. Additionally, it is envisioned that a new public open space or plaza would be included as a focal point as the 4 Corners intersection is redeveloped.

The Vision and Concept also includes the development of a cohesive system of pedestrian connections and trails that would link activity nodes, parks, and open spaces together. Potential connections are shown in several locations in the Vision and Concept, including a trail that connects University Avenue to the Bay Trail along Purdue Avenue and eastward into Ravenswood, as well as a pedestrian and bicycle trail alongside the proposed loop road. Additional pedestrian trails are also shown along a former rail spur south of Bay Road between Clarke Avenue and the Bay Trail.

These park and trail locations are conceptual only—the exact locations and programming of each potential new park, open space and trail are unknown at this time. However, the general locations and orientations shown in the Vision and Concept will form the basis for the City's efforts to strengthen the Plan Area's park, open space and trail network.

The following sections discuss the various park, open space and trail opportunities that are a part of the Specific Plan.

### **Cooley Landing Park**

A plan for Cooley Landing Park calls for the existing Cooley Landing open space area to be transformed into one of the primary park spaces in East Palo Alto. The approximately 11.5-acre Cooley Landing site is located at the eastern

terminus of Bay Road in the cities of East Palo Alto and Menlo Park and borders tidal marshlands and mud flats at the edge of the San Francisco Bay.

The proposed park will accommodate low-impact recreational uses such as walking, bicycling, picnicking, bird watching, water access, and nature study. Public access for pedestrians and bicyclists would be allowed on Cooley Landing from sunrise to sunset seven days a week. The park will also provide an airboat launch location for the Menlo Park Fire Protection District.

Because Cooley Landing Park is addressed in a separate plan, this Specific Plan does not address the proposed park in detail. However, the Specific Plan provides for enhanced connections to Cooley Landing. Bay Road is envisioned as the heart of East Palo Alto and will ultimately terminate at the Cooley Landing site. Future development and streetscape improvements near Cooley Landing should connect to the park as well.

### **Public Plazas**

Public plazas should be accommodated in the Plan Area, both in private development and as public improvements. Public plazas can serve as a neighborhood-wide amenity. Smaller plazas should also be incorporated into private development where possible, particularly where they can be made accessible to the public. These spaces will provide focal points and gathering places for Ravenswood and 4 Corners. Furthermore, during special events, these spaces can be used to accommodate market stalls, stages, or other temporary improvements and uses.

### **Neighborhood and Community Parks**

Several neighborhood and community park opportunities are shown on the Vision and Concept as green spaces. Community parks can serve as regional destinations as well as amenities for those working and living within the Plan Area. For example, community parks could include a variety of open fields, exercise areas, play fields, educational opportunities, playgrounds, and other similar features. In contrast, neighborhood parks generally include a smaller selection of amenities that are chosen to meet the needs of the surrounding neighborhood.

In addition to Cooley Landing Park, several neighborhood parks could be provided within the Plan Area. New parks will help to respond to increased demand created by new residents; provide focal points and gathering places for employees and residents; and contribute to the aesthetic quality of the community.

### **SFPUC Right-Of-Way Park**

The San Francisco Public Utilities Commission (SFPUC) right-of-way for the Hetch Hetchy pipeline, located in the University Village neighborhood, presents a prime opportunity to provide a new active park within the Specific Plan Area. Please refer to Chapter 4, Vision and Concepts, for a detailed concept plan for the SFPUC right-of-way. This plan is only conceptual. The exact program and configuration of the park would be determined in a future process.

The SFPUC site is approximately 80 feet wide and 1,400 feet long, with an area of approximately 2.5 acres. It runs between two stretches of single-family homes on Fordham and Georgetown Streets. Because the site runs between the backyards of homes, access is extremely limited. Access is available from the intersection of Rutgers Street and Tulane Avenue to the north, and from Purdue Avenue to the south. A small piece of the easement is located adjacent to Costaño Elementary School just south of Purdue Avenue.

This area is currently vacant above ground, but there is potential for park uses to be developed on the site. A new park at this location could provide a complementary green space to Jack Farrell Park, creating a improved balance of green spaces within the neighborhood.

Uses for the park could include a multi-use path, a 40-plot community garden, a dog run, and play areas for two different age groups. A school garden could be located in the portion of the easement south of Purdue Avenue. Finally, each neighborhood access point could be articulated by a small entry plaza. Because of the easement's location adjacent to single-family homes, a ten foot wide buffer could be located between the site uses and the property lines along both sides of the easement.

Any improvement or park uses created at this location would need to be undertaken in coordination with homeowners and residents in this neighborhood to ensure that their vision is taken into account and their needs are addressed. Opportunities should also be explored to provide additional access to the site in addition to the two endpoints.

### **Open Spaces at Bay's Edge**

Open spaces and trails should be provided at the San Francisco Bay's edge to the extent feasible, as depicted in the Vision and Concepts. This type of public amenity would likely be developed in conjunction with private development. By providing a continuous pedestrian path along this edge, development would be buffered from natural resource preservation areas to the east, educational opportunities could be created, and pedestrian circulation could be optimized within the Plan Area.