



CIRCULATION NETWORK

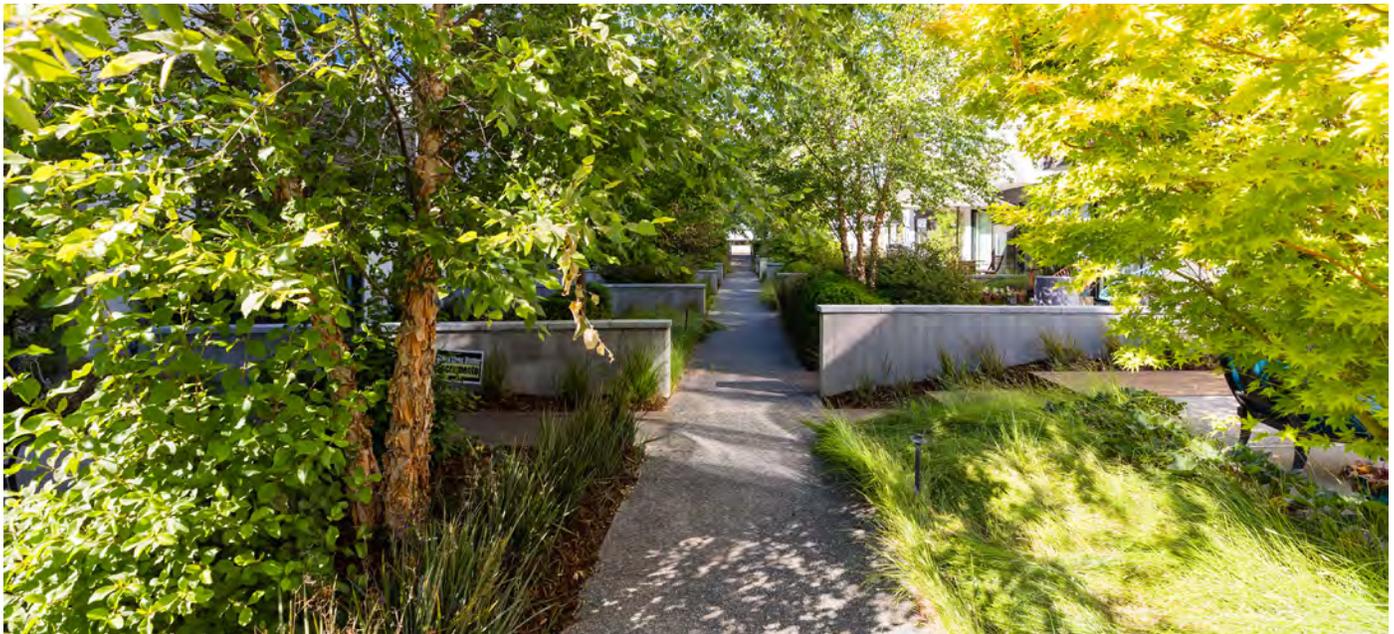
CHAPTER

5



CHAPTER 5

CIRCULATION NETWORK



Internal neighborhood circulation

Streets, possibly more than any other single urban element, have the greatest influence on overall community form and livability. Residents, visitors, and employees alike, will immediately discern and be comfortable with the approach to the multimodal network at Innovation Park. It will be distinguished by safe, convenient, and attractive tree-lined multimodal streets, and Innovator Loop, a curvilinear park with Class I path, bounding the community. The hierarchical and interconnected network will accommodate multimodal circulation that will serve and enhance pedestrians, cyclists, and vehicles, mobility, in keeping with the City of Sacramento’s Complete Streets Policy. This could be accomplished by establishing a hierarchical roadway network with main roads serving as a framework from which a network of interconnected local

roads could be tiered. Complete Streets are roadways designed for user convenience, safety, comfort, access and to ensure reasonable travel time for all types of users.

While Innovation Park is foreseen to have a vibrant urban core, districts, and neighborhoods, it will not be an island. It will be an integral element of the larger community, being in the center of the North Natomas neighborhood, close to North Natomas Town Center. It is bound by four important roads: Arena Boulevard to the south; Truxel Road to the east; Del Paso Road to the north; and East Commerce Way to the west. Each of which serve to connect Innovation Park to its context serving many modes of transportation (**Figure 5-1**).

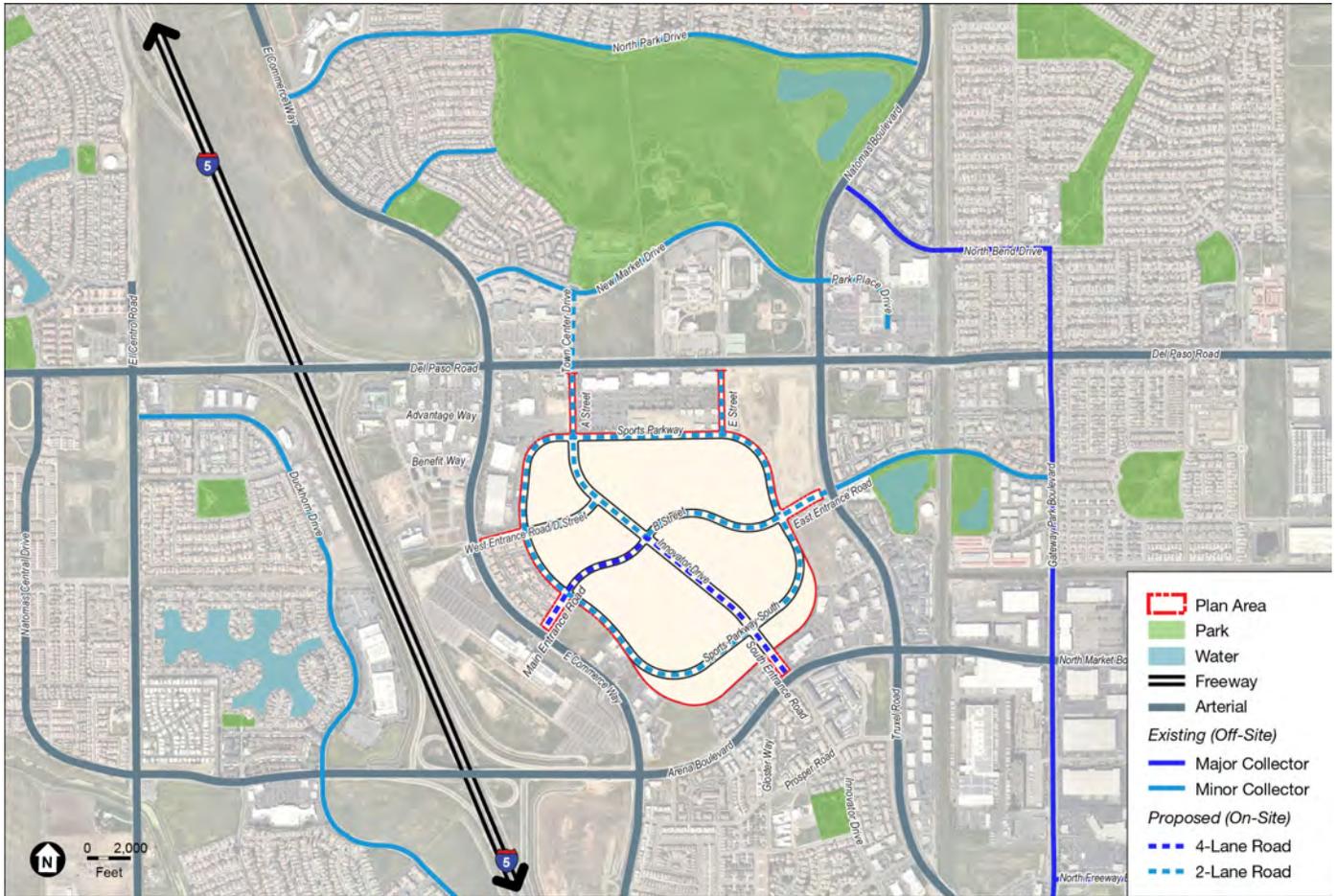


Figure 5-1. Baseline Roadway Network
 SOURCE: ESA, 2021

5.1 POLICIES

- 5.1.1 Adherence to City Policies.** The circulation network and its role in the community is recognized to be a formative element in the overall design of Innovation Park. The network should reflect consistency with relevant City of Sacramento Mobility Element and Complete Streets Policies, and Street Design Standards to ensure the creation of a safe, convenient, and inviting network that meets the needs of pedestrians, cyclists, transit, and vehicles.
- 5.1.2 Network that Supports a Diverse Urban Setting.** The design of the circulation network should recognize the context it is supporting. In some areas it will likely serve many visitors and facilitate vibrant and diverse street life. In others it will traverse districts serving in a quieter, neighborhood capacity. Each of the varied settings will contribute to the overall community and the unique characteristics of their immediate setting and street design must reflect this.
- 5.1.3 Network that Meets the Needs of Many and Is Inviting to All.** The design and connectivity of the network should lend itself to the safe, convenient, and attractive use of many modes of transportation. Streets will be tree lined with facilities for pedestrians, cyclists, and vehicles, with generous sidewalks throughout, and Class I and IV bicycle routes, to facilitate safe and efficient mobility. These streets will serve as the framework for an interconnected network throughout the community.
- 5.1.4 Interconnected Districts.** The framework circulation network will be enhanced as future development occurs within Districts, where the local tier of complete streets will establish a finer-grained network, adding to overall connectivity.
- 5.1.5 Safe Crossings.** The multimodal network should include appropriate measures to ensure safe crossings of all users to reduce the possibility of pedestrian/bicycle/vehicle conflicts.
- 5.1.6 Transit Usage.** Innovation Park’s urban form, density, collection of uses, and connectivity would support transit use by creating a pedestrian- and bicycle-friendly network, providing convenient access to transit.

5.2 HIERARCHICAL NETWORK

The roadway network at Innovation Park is seen as a logical framework providing access and defining urban form and community organization. It is composed of a central spine road, a community wide loop road, connector streets and local roadways. Each of these serve unique purposes and contribute to the overall roadway network. Their design reflects their context and incorporate City of Sacramento Design and Procedures Manual Section 15, *Street Design Standards*, requirements and the Complete Streets Policy.

As the circulation system is seen as an integral element of the overall vision for Innovation Park, a context sensitive approach to design has been followed, which recognizes that certain areas are foreseen to be vibrant and busy, and others quieter, and less bustling with activity. The entire community is foreseen to include safe and inviting tree-lined streets, with building design and orientation that best reflects the character of the specific district.

While there is considerable nuance to the details and workings of the circulation network, it tiers from four fundamental street types:

- 4-lane road with parking on both sides;
- 2-lane road with parking on one side;
- 2-lane road with parking on both side; and
- 2-lane local road with parking on both sides (with both residential and commercial conditions).

The following provides a general overview of the primary roads used to define the network (**Figure 5-2**). Conceptual street sections for the four fundamental street types within the Plan Area are included as **Figure 5-3** through **Figure 5-6b**.

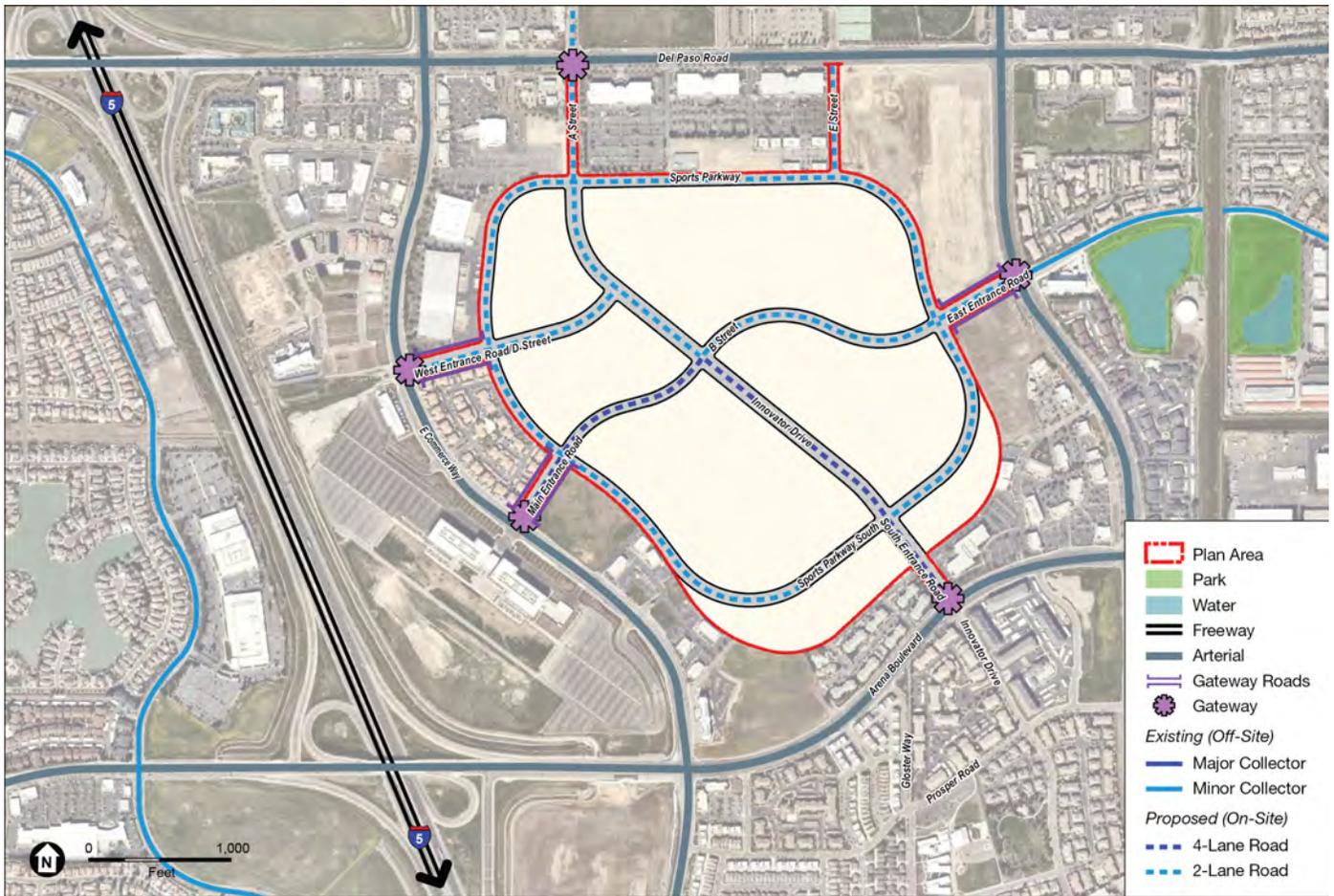


Figure 5-2. Framework Circulation Network
 SOURCE: ESA, 2021

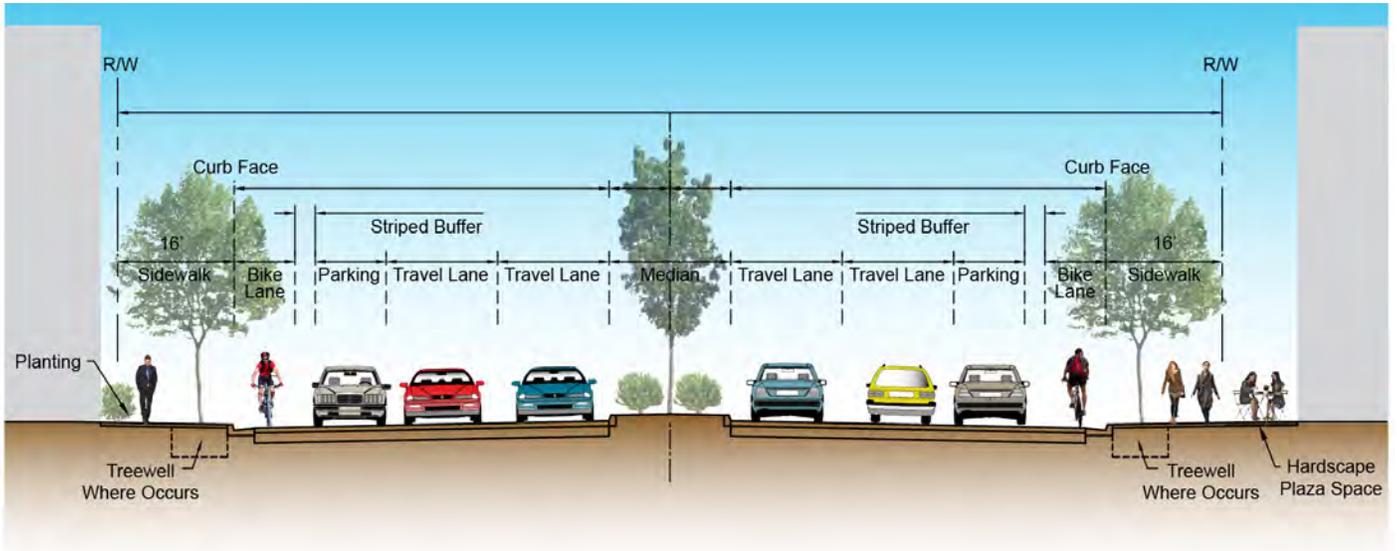


Figure 5-3. 4 Lane Major Collector with Parking on both sides

SOURCE: ESA, 2021

Note: Street section is conceptual and is for illustrative purposes only

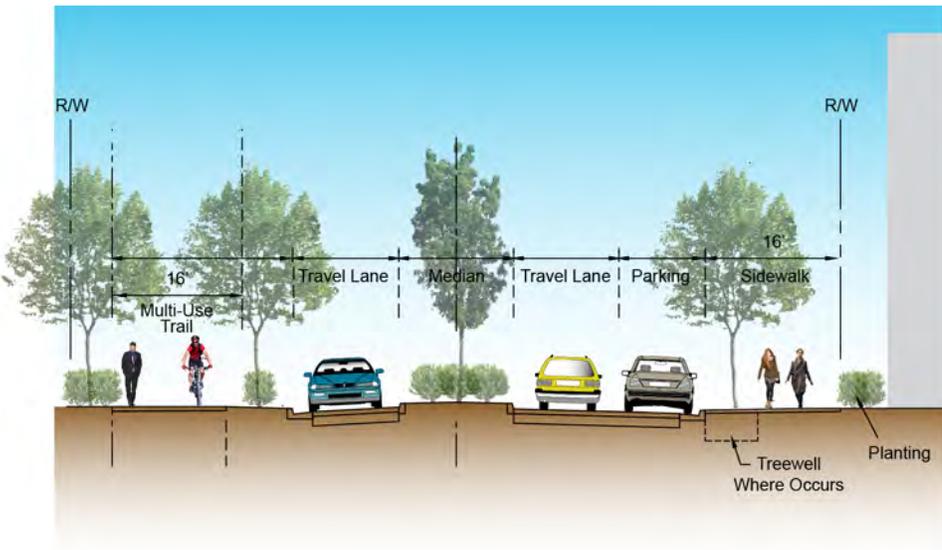


Figure 5-4. 2 Lane Major Collector with Parking on one side

SOURCE: ESA, 2021

Note: Street section is conceptual and is for illustrative purposes only

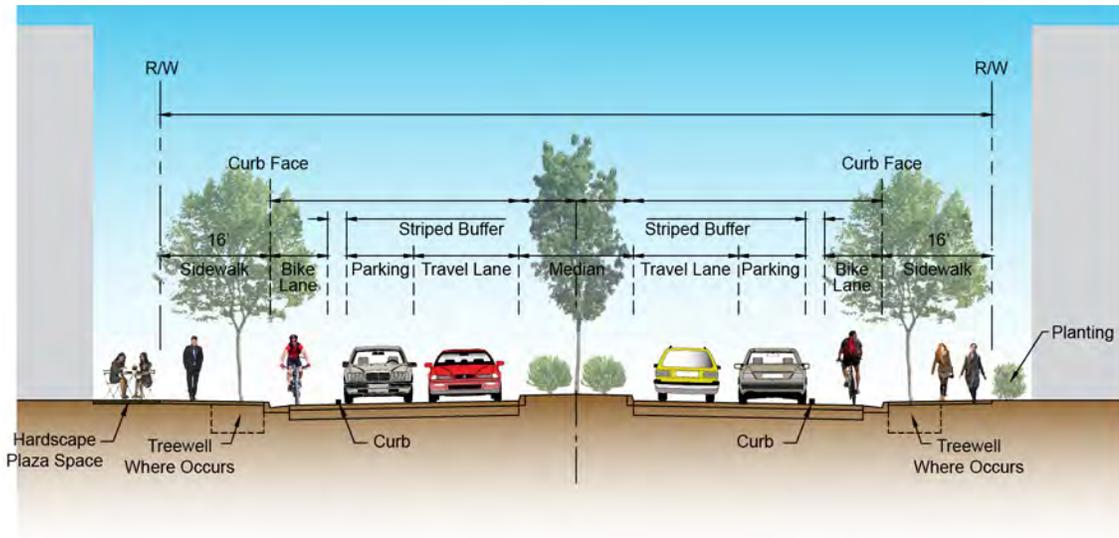


Figure 5-5. 2 Lane Major Collector with Parking on two sides

SOURCE: ESA, 2021

Note: Street section is conceptual and is for illustrative purposes only

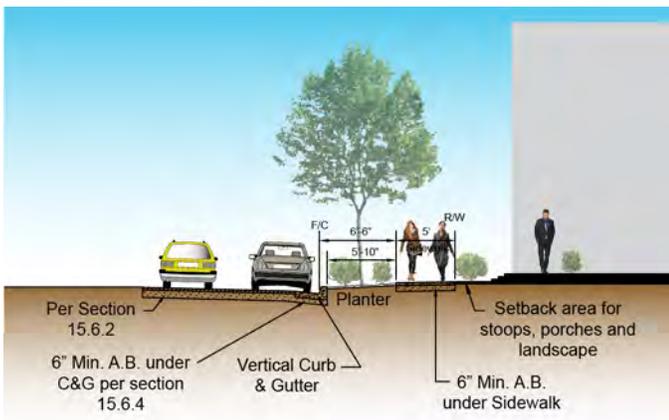


Figure 5-6a. 2-lane local road with parking on both sides (residential condition)

SOURCE: ESA, 2021

Note: Street section is conceptual and is for illustrative purposes only

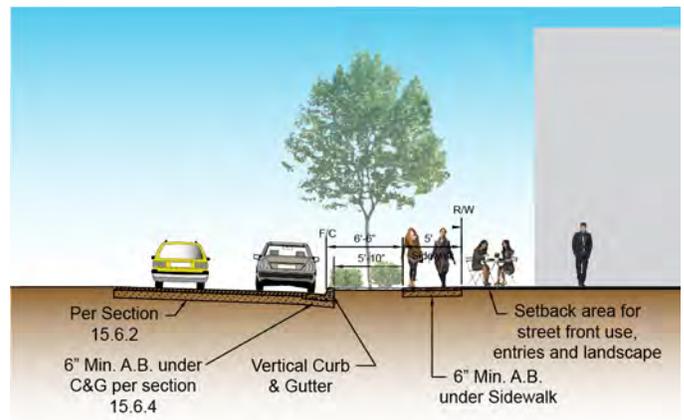


Figure 5-6b. 2-lane local road with parking on both sides (commercial condition)

SOURCE: ESA, 2021

Note: Street section is conceptual and is for illustrative purposes only

5.2.1 Innovator Drive

Innovator Drive serves as the central spine of Innovation Park, running the north/south length of the site from Arena Boulevard to Del Paso Road. As it will lead visitors to and from the heart of the community, and anticipates a multimodal role, including a four-lane collector between Arena Boulevard, and a two-lane collector between Main Entrance Road/B Street and Sports Parkway.

It would provide safe and attractive facilities for pedestrians (tree-lined sidewalks), cyclists (via Class IV route designation) and vehicles (four/two travel lanes with parking on both sides), and a landscape central median. In addition to meeting the needs of users, this key roadway will help to define the overall urban form and character of Innovation Park.

Its tree-lined streets will provide shade and work to establish visual continuity as one travels into the community. On street parking will serve visitors and residents alike, adding to the viability of street front shops and apartments, and providing a subtle traffic calming mechanism. The Class IV bike lane will provide cyclists with safe and direct access to the heart of the community.

5.2.2 Sports Parkway

Sports Parkway runs along the perimeter of Innovation Park, with two travel lanes, and parking on one side. In addition to providing access to each of the districts, it adds to the integrated network by providing an alternative travel way to Innovator Drive, and local, internal streets. Like other streets, it will be tree- and sidewalk lined. It will also bound Innovator Loop, a curvilinear park, with a Class I path running its entire length.

This unique element of the roadway network will provide a special multimodal facility that will help facilitate movement in a safe and inviting way, and provide visual continuity via streetscape treatments, adding to the overall character of Innovation Park. This configuration will provide safe and attractive facilities for pedestrians (tree-lined sidewalks), cyclists (via Class IV route designation) and vehicles (four/two travel lanes with parking on both sides), and a landscape central median. As an important roadway, its streetscape serves to enhance the sections of the districts it crosses.

5.2.3 Connecting to the Community

Innovation Park will be connected to the adjacent community by four roadways, not counting the two connections with Innovator Drive. Two of these roads will connect to East Commerce Boulevard to the west, one to Del Paso Road to the north, and one to Truxel Road to the east. Each will facilitate access and serve as gateways to the community. Because these roads are anticipated to serve different purposes, they will include two- and four travel lanes in different locations.

Main Entrance Road/B Street will cross Innovation Park, from East Commerce Way in the west to Truxel Road in the east. Starting from East Commerce Way to the intersection of Innovator Drive, it will have four travel lanes, and from this intersection east, two travel lanes. It will provide safe and attractive facilities for pedestrians (tree-lined sidewalks), cyclists (via Class IV route designation) and vehicles (four/two travel lanes with parking on both sides), and a landscape central median.

West Entrance Road/D Street will enter Innovation Park from East Commerce Way ending at the intersection of Innovator Drive. It will provide safe and attractive facilities for pedestrians (tree-lined sidewalks), cyclists (via Class IV route designation) and vehicles (two travel lanes with parking on both sides), and a landscape central median. As an important roadway, its streetscape serves to enhance the sections of the districts it crosses.

E Street will enter Innovation Park from Del Paso Road. It will include two travel lanes, two Class IV bicycle lanes, tree-lined sidewalks, and a landscaped median.



Local roads serve the interior of neighborhoods in the Plan Area



Two-lane road with parking on both sides

5.2.4 Local Access Streets

Local access streets are the second tier of the roadway network, stemming from the backbone roads, establishing a finer grained, interconnected system. These crucial streets are used to distribute trips throughout the community and into districts. The design of each should reflect its context and add to the viability and character of the area they are a part of. They are foreseen to be attractive, tree- and sidewalk lined, with on-street parking provided.

The desired street design and streetscape within each district should vary to reflect each area's use. Some places like the Innovation District are intended to be vibrant residential and employment destinations and be in tune with an urban living and workplace allowing convenient and attractive movement throughout. Local streets in the Life District should reflect its primarily residential context and should be more relaxed and quieter, than those located in areas more focused on serving a broader cross section of users and purposes.

The location of local access streets has not yet been determined, as individual parcels have not been designed. These streets though must contribute to the overall roadway network, considering the creation of a finer grained and well-connected network of complete streets that is safe and inviting to pedestrians, cyclists, and vehicles. They should serve as extensions of the larger network and to be in logical, mid-district locations, creating an interconnected and discernable block pattern. Within districts, they should provide a logical and connected network, shaping the sub-districts and neighborhoods that bound them.



Local road with bike lane



Bus stops serve the Plan Area

5.3 PUBLIC TRANSIT

The Plan Area is centrally located in the North Natomas neighborhood and is easily accessible and served by proximate existing bus service (Figure 5-7). Transit will become a catalyst for the creation of an urban environment that will encourage people to walk and bike.

Sacramento Regional Transit currently provides transit service to the periphery of the Plan Area. As redevelopment of the Plan Area begins to occur, Sacramento Regional Transit will be consulted to determine how best to serve customers within the Plan Area. This could include extending/re-routing existing bus routes or creating new bus routes to include Innovation Park.

Innovation Park is foreseen to be a transit ready urban environment. This means that several transit supportive elements are built into the plan, anticipating a variety of fixed route (such as local and express service), demand response, or vanpool service. These include:

- Transit-oriented urban form and land uses – transit supportive public realm, employment, and residential densities, and convenience shopping, dining, and services;
- Variety of housing choices – higher-density apartments, townhomes, attached single family;
- Strong connections – well connected, multimodal roads, with convenient, accessible travel options including pedestrian, cycle, and vehicles; and
- Well-defined core area/destination, with convenient “last-mile connectivity.”

A transit supportive environment brings these together to establish a place that allows various forms of transit to be embraced as safe, attractive, and convenient alternatives to driving alone.

5.3.1 Potential Light-Rail Extension and Station

A light-rail extension linking downtown to the airport, is potentially being routed along Truxel Road (Figure 5-8). This route could also include a station, located just east of Innovation Park, near where East Entrance Road/B Street connects to Truxel Road. While still in the planning stages, should this alignment and station be developed, it would be located within approximately ½ mile of the intersection of B Street and Innovator Drive, the heart of Innovation Park. This convenient proximity would allow residents and workers a safe and direct walking or cycling linkage to the potential station. Additionally, the potential exists for a shuttle provided by the Hospital to transport people from the RT station to the Hospital/Medical Campus.



Landscape islands located at the end of parking aisle

5.4 VEHICULAR PARKING

In addition to the street parking as already described in this chapter, vehicular parking in the Plan Area is also likely to include some surface parking areas and parking structures. Together, these parking facilities will provide sufficient and efficient parking for all users.

Higher density uses could be served by structured parking (podiums or stand alone structures, or integrated wrap type facilities). Some lower density apartments could include various types of tuck under parking, along with surface parking. Some lower density/population office uses could include surface parking.

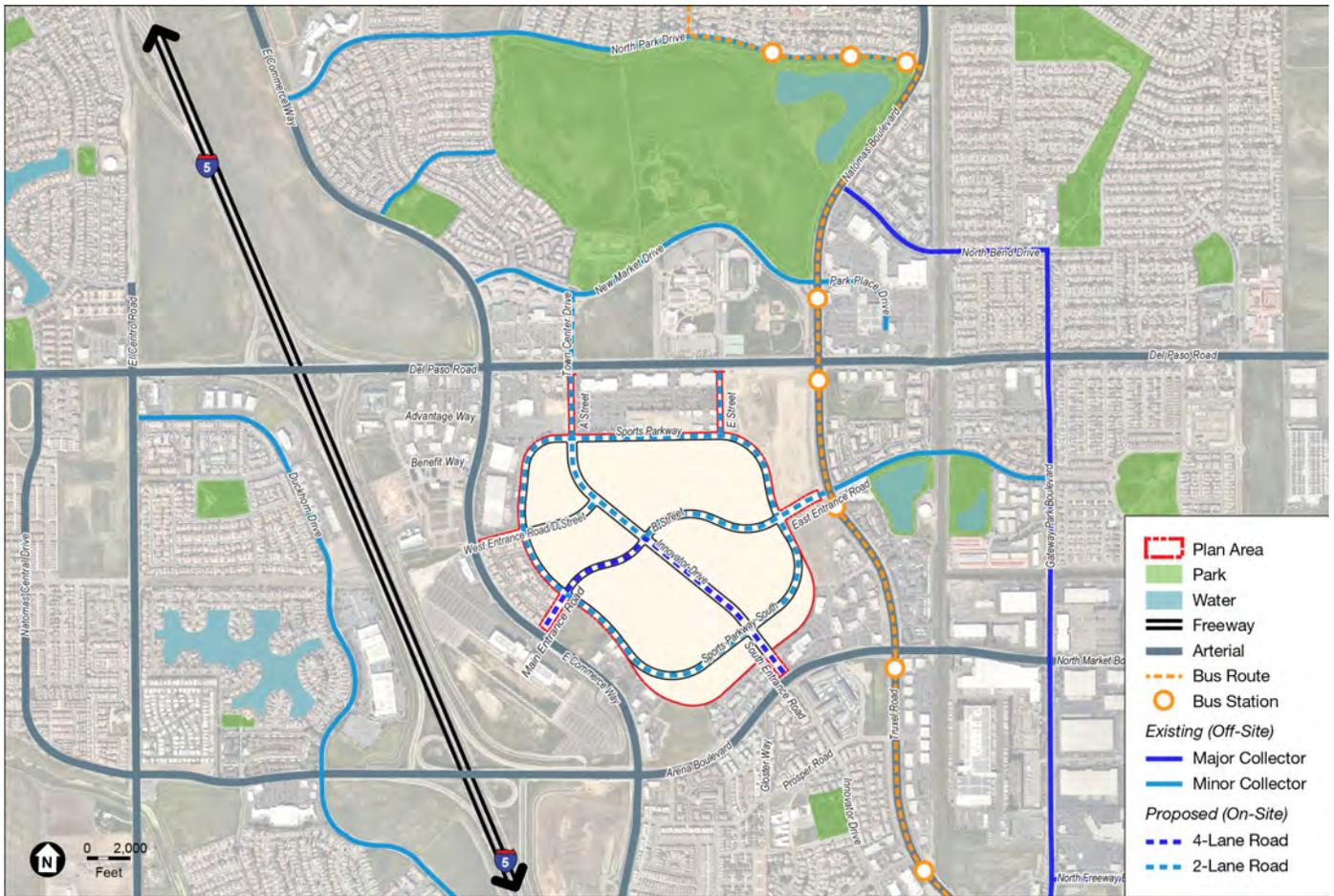


Figure 5-7. Bus Routes and Stations Map
 SOURCE: ESA, 2021

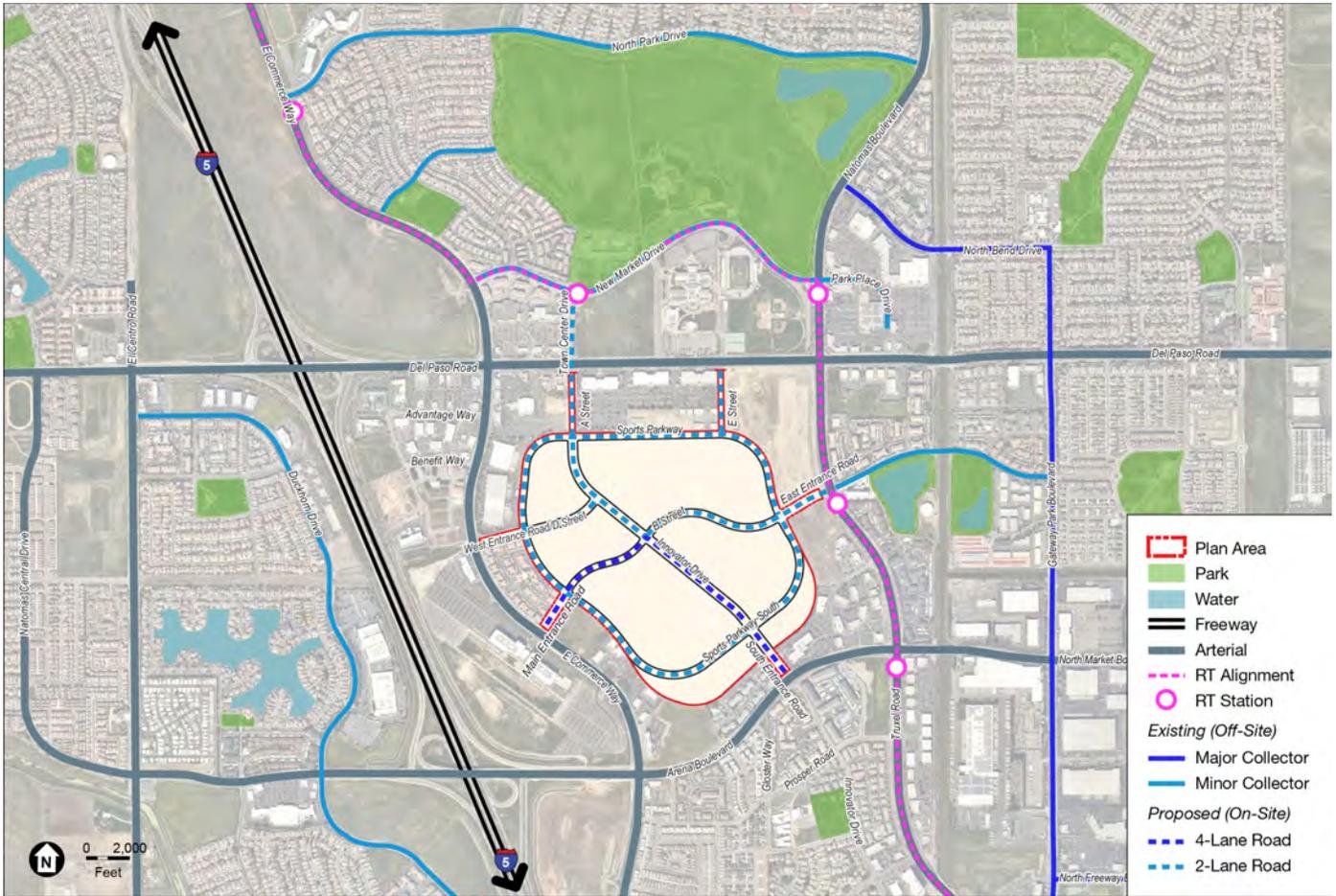


Figure 5-8. Potential Light Rail Route and Stations Map
 SOURCE: ESA, 2021



Uber/Lyft shared ridership programs would reduce parking demand



Dedicated parking for carpool vehicles



Designated EV parking with charging stations

Parking in the Hospital/Medical campus should be thoughtfully integrated into the overall concept and be generally complementary to the overall vision for Innovation Park.

Should surface parking occur, it should be located next to the street and effort should be made to provide an attractive landscape treatment around and within the parking lot to provide shading and break down surface parking scale.

Surface parking lots should be designed to include adequate drainage and is encouraged to consider permeable pavement. Landscape medians between parking rows are recommended, as they can provide space for stormwater management and pedestrian paths. Pedestrian paths within parking lots should be aligned and connected to sidewalks. Landscape islands are also encouraged every 20 linear spaces, and at the end of each parking aisle along with shade, in keeping with City of Sacramento Standards for shading.

Structured parking in the Plan Area could be in the form of free standing parking structures, integrated podium, or integrated structures attached to commercial or residential uses ("wrap" structures).

Freestanding parking structures should be located away from public streets, within the parcel they are intended to serve. If they are built next to streets, there should be a 20' setback from the sidewalk to the building face to establish a landscape buffer area. They should be screened by vertical plantings and include architectural elements to create appealing exterior walls.

Podium type buildings commonly include some portion of ground floors being dedicated to parking. In these cases, street facing parking bays are encouraged to be screened from view by ground floor uses and thoughtfully designed building facades with the intent of creating an attractive street facing elevation. Effort should be made to avoid long, blank wall treatments.

Wrap type parking structures are commonly free-standing parking structures, with their intended use built up directly to their edges. They are usually located within the subject parcel, and not fronting onto nearby streets. These types of structures are generally screened from off-site views by the uses that "wrap" them, such as apartment units or office space.

The project's mix of uses, connectivity, and transit options could create opportunities for reduced parking needs. Shared parking is encouraged, for instance, commercial and commuter parking can be shared with residential parking. Such shared parking can reduce parking demand and maximize parking utilization.

Meanwhile, with today's advanced technology in shared ridership services such as Uber and Lyft, as well as emerging autonomous vehicles, the parking demand in the Plan Area may be further reduced compared to traditional neighborhoods. Another method for reducing reliance on drive alone trips and the need for cars and parking can be the use of transportation demand management (TDM) strategies that provide policies and incentives to use alternative transportation modes, also reduce the need for excess parking. With these strategies, lower parking ratios can be effectively achieved, and creates more opportunities for development and open space. Lower parking ratios could also help form a more pedestrian-oriented urban environment that will encourage more people to use alternative transportation, reduce vehicular trips and create fewer carbon emissions.

Dedicated parking spaces for electric vehicles (EV), consistent with the requirements set forth in City of Sacramento City Code section 17.608.040, should be incorporated on surface parking lots and parking structures. EV charging poles and parking spaces should be located at designated areas with clear signs. Carpool parking should be also provided in dedicated locations. Carpool and EV parking spaces should also be given priority by arranging them at primary locations to support low-emissions vehicles.



Street trees and street furniture contribute to pedestrian enjoyment

5.5 PEDESTRIAN AND BICYCLE CIRCULATION

Innovation Park is foreseen to be an urban community that provides mobility options well suited to meet the needs of pedestrians, cyclists, and vehicles in a safe, inviting, and efficient network. The network would provide users with direct linkages to and among places, no matter the mode.

Key to this network is following a complete streets attitude toward its design. Area-wide treelined streets and sidewalks and bicycle routes are among the fundamental elements to the area’s overall design sensibility. This attractive public realm is intended to serve the mobility needs of many, reflecting the unique character of the district or neighborhoods they are a part of. It also seeks to pursue design solutions that minimize the potential for pedestrian/cycle/vehicle conflicts, by providing safe, well defined routes for each.



Carefully designed sidewalks will provide maximum safety for pedestrians



Dedicated bike lanes offer cyclists convenient access through the Plan Area

Just like the roadway network, there will be a hierarchy of sidewalks located throughout the community. Primary four- and two-lane streets will be fronted with generous sidewalks. These broad, tree lined sidewalks are intended to meet the needs of, and reflect the character of a bustling vibrant place, which will experience the highest amounts of daily use. Similarly, on quieter, local residential and commercial streets will have 5’ wide sidewalks, separated from the street by a landscape area, allowing for continuous street trees and special local landscape or hardscape element.

A hierarchical bicycle circulation network has been carefully integrated in the transportation network. It defines routes in order to best meet the needs of end users.

Bicycle routes include three primary types of bicycle facilities:

- a Class IV route network which runs along each of the major streets providing safe and efficient access to the heart of Innovation Park
- Innovation Park Loop, a Class I path that would bound the entire plan area, running along the outside of the length of Sports Parkway
- Class II and III routes in appropriate locations

These carefully located routes will provide cyclists safe, convenient, and attractive linkages to key destinations and throughout Innovation Park. They are foreseen to serve visitors and residents alike proving an integrated alternative to walking or driving. The local network would include Class II and III routes, proving “last mile” connectivity.

Additional bike support facilities, such as bike parking, lockers, and showers, should be considered within the context specific needs of users in the Plan Area (**Figure 5-9**).

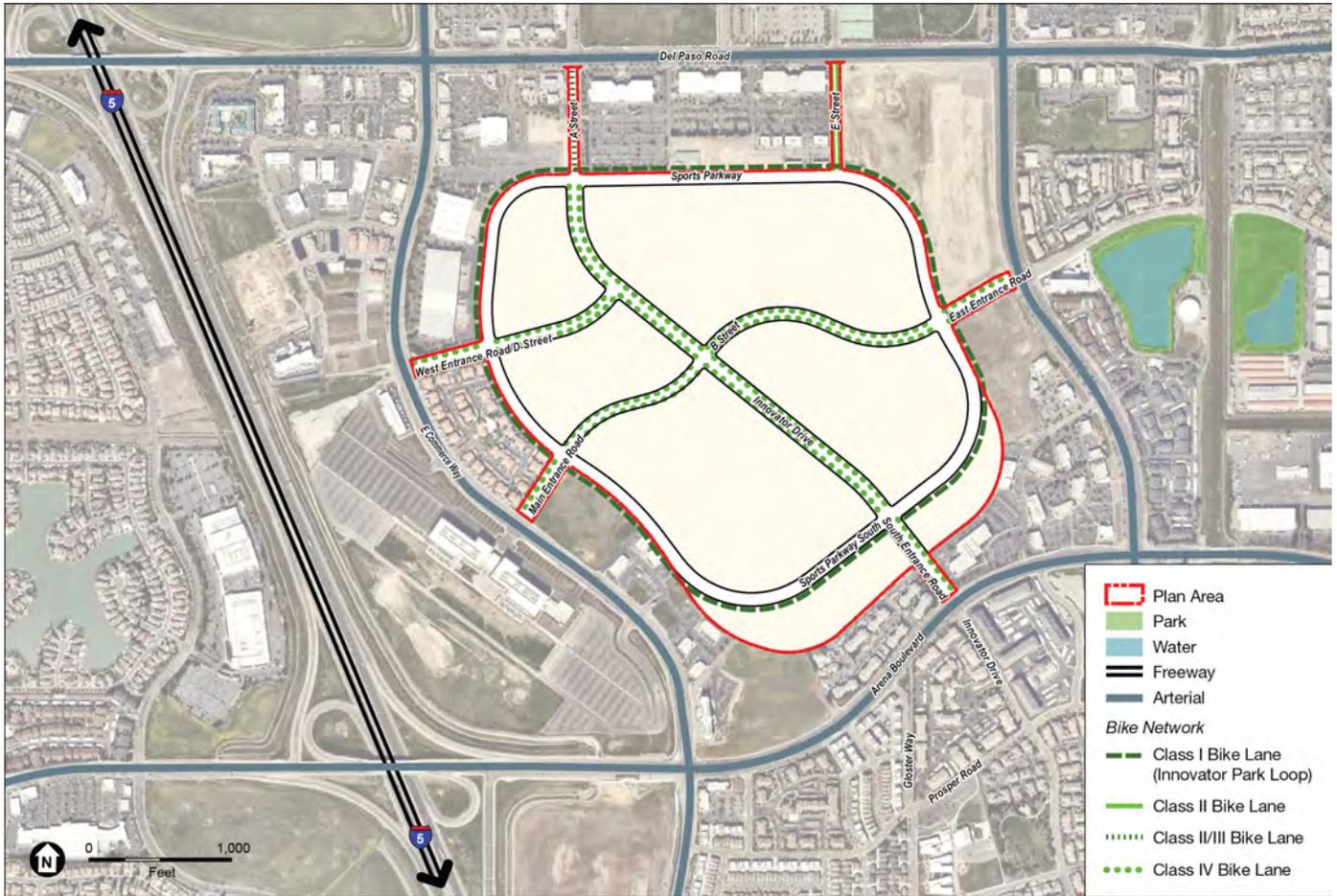


Figure 5-9. Bike Network Map
 SOURCE: ESA, 2021