



Solicitation RFI 2019-DOT-PPD-4

New Transit Options: Airport-Diridon-Stevens Creek Transit Connection

Bid Designation: Public

Southern Illinois University Carbondale

School of Architecture ARC 551

Southern Illinois University Masters of Architecture ARC 551 Fall 2019

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Linking the downtown and multiple activity centers along the proposed Airport-Diridon-Stevens Creek Transit Connection, so that new transit options for a carbon-free future can be achieved requires full connectivity without a car. At the turn of the 20th century many streetcar cities had this level of connectivity. Today, a solar powered PRT system designed by engineering students at San Jose State University can provide point to point connectivity. The ideas presented will show how the San Jose Downtown area, De Anza College area and Santa Clara Valley Medical Center area can be fully connected.

The students will have complete Master Planning Presentations for these three site areas on October 16, 2019. We will share all of these with you at that time. Thank you for allowing us to submit a preliminary response to the RFI.

Students:

Group 1 Downtown San Jose:

Benjamin Stremming, Jose Sosa, Ruth Murillo

Group 2 Santa Clara Valley Medical Center & San Jose City College:

Peter Galick, XiXian Wu, Diego Ortiz

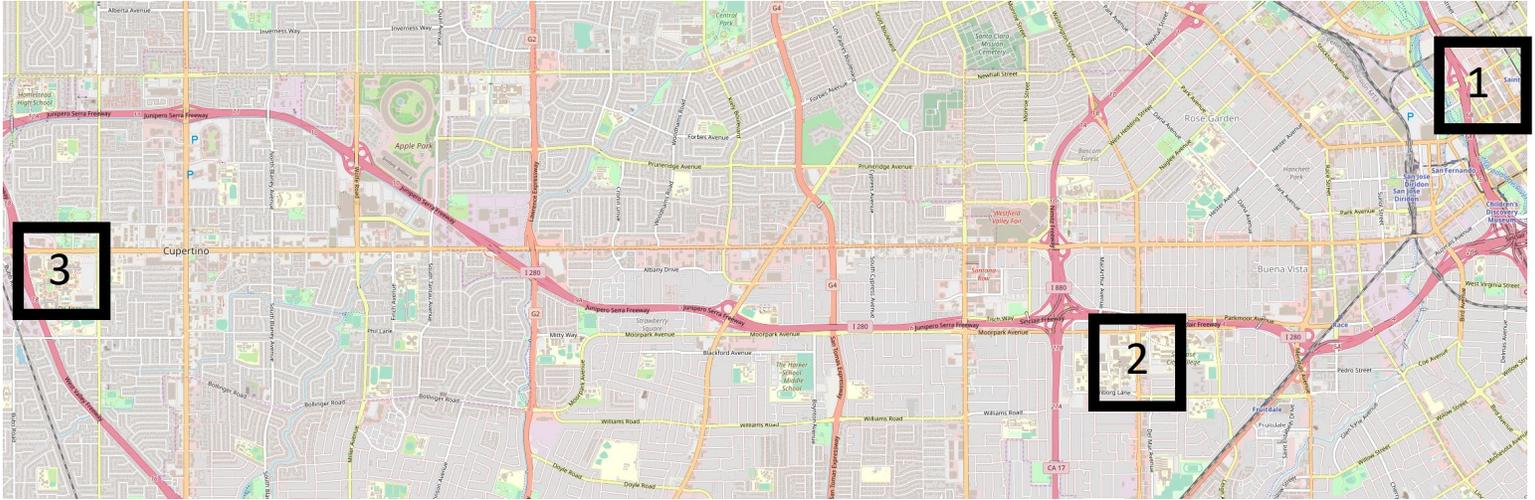
Group 3 De Anza Community College & Surrounding Area :

Tim Mehta, Joseph Plummer, Chaseton Holdman



SITE LOCATIONS

Our three groups focused on three different areas in the San Jose area.



1. Downtown San Jose



2. Santa Clara Valley Medical Center & San Jose City College



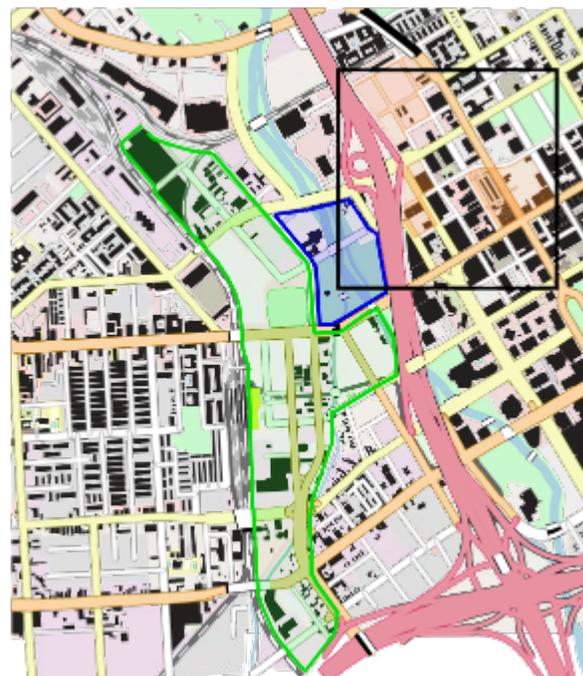
3. De Anza Community College & Surrounding Area



1 DOWNTOWN SAN JOSE

Providing effective and environmentally conscious transportation will help to make San Jose a city ahead of its time and enabled to create a new generation of development and innovation. It has the potential to connect many different people from many different walks of life, enabling those with disabilities and providing an effective alternative to owning a vehicle. It is possible to implement a network of solar powered public transportation in a manner that highlights the community benefits that it has to offer to groups and individuals in the city and integrate it in an artistic and informed manner. Our project aims to provide the City of San Jose with an effective solution towards providing better public transportation throughout the city. This would be accomplished by using a network of solar powered pod cars and stations to provide effective point to point transportation, while avoiding the traffic and pollution associated with traditional methods of transportation. Our proposal breaks down a site of 768 m² located in the downtown area of San Jose.

The diagrams below demonstrate preliminary analysis of the walkability of the site. The context was broken down into quarter mile radius hexagons or cells. These cells serve as the maximum distance for spacing the network management systems. A quarter mile cell might contain anywhere from 1 to more stations, and easily accessible methodologies for first-to-last mile transportation mechanisms (like bikes, scooters, UBER, etc.) This aims to create hospitable environments, designed around human scale, and emphasizing the locations and the resources that they offer. The flexibility of a network style transportation system allows for more amenities and experiential based design, rather than fighting infrastructural limitations such as the size of roads and requirements for parking.



San Jose Downtown

Map Key

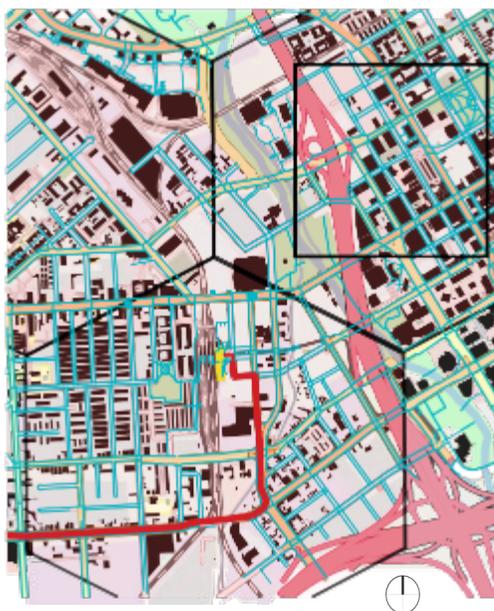
- Project Site
- Programmed Areas
- Google: San Jose Transit Village Proposal
- Guadalupe River Walk Proposal
- Diridon Station



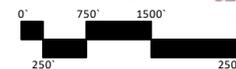
Connection to Proposed Developments



One Mile Bike Distance Cells



Quarter Mile Walkability Cells

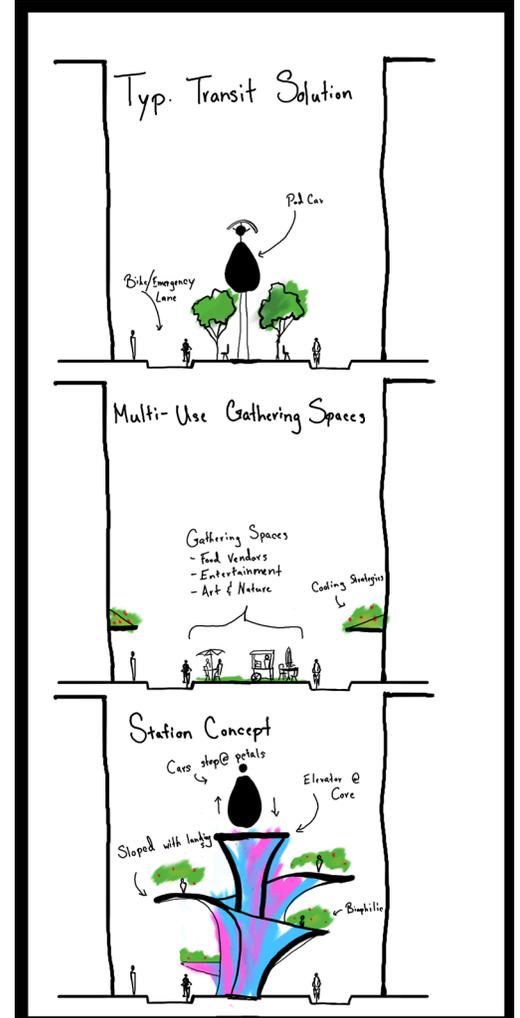


DOWNTOWN SAN JOSE



Initial Land-Use Programming ①

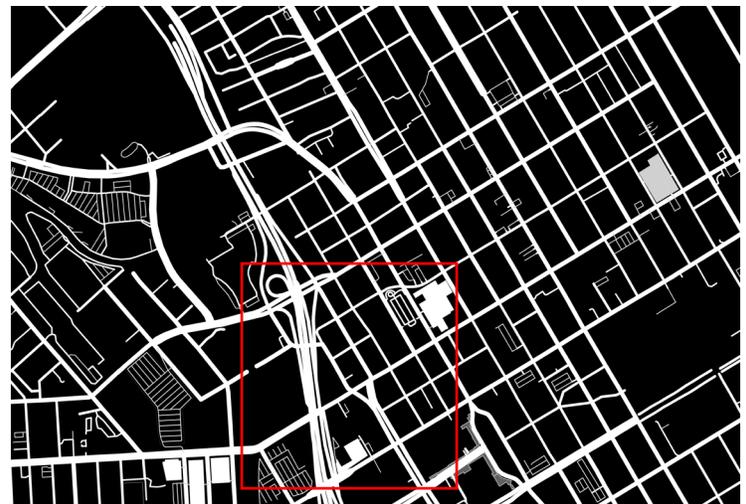
This map encompasses the initial thought process for the development and incorporation of a pod car transportation network. The areas in blue are programmed to be various high-density residential areas. The green sections are community centric services and green spaces. The red are commercial structures. The purple lines are the proposed routes for integrating a track system. The main goal this team focused on with this site, was to integrate a transportation network while providing more housing solutions for a variety of different individuals and aim to provide equitable solutions that increase the overall standard of living within the area.



Preliminary Street-scape Design



Figure Ground Analysis ①



Street Footprint Analysis ①



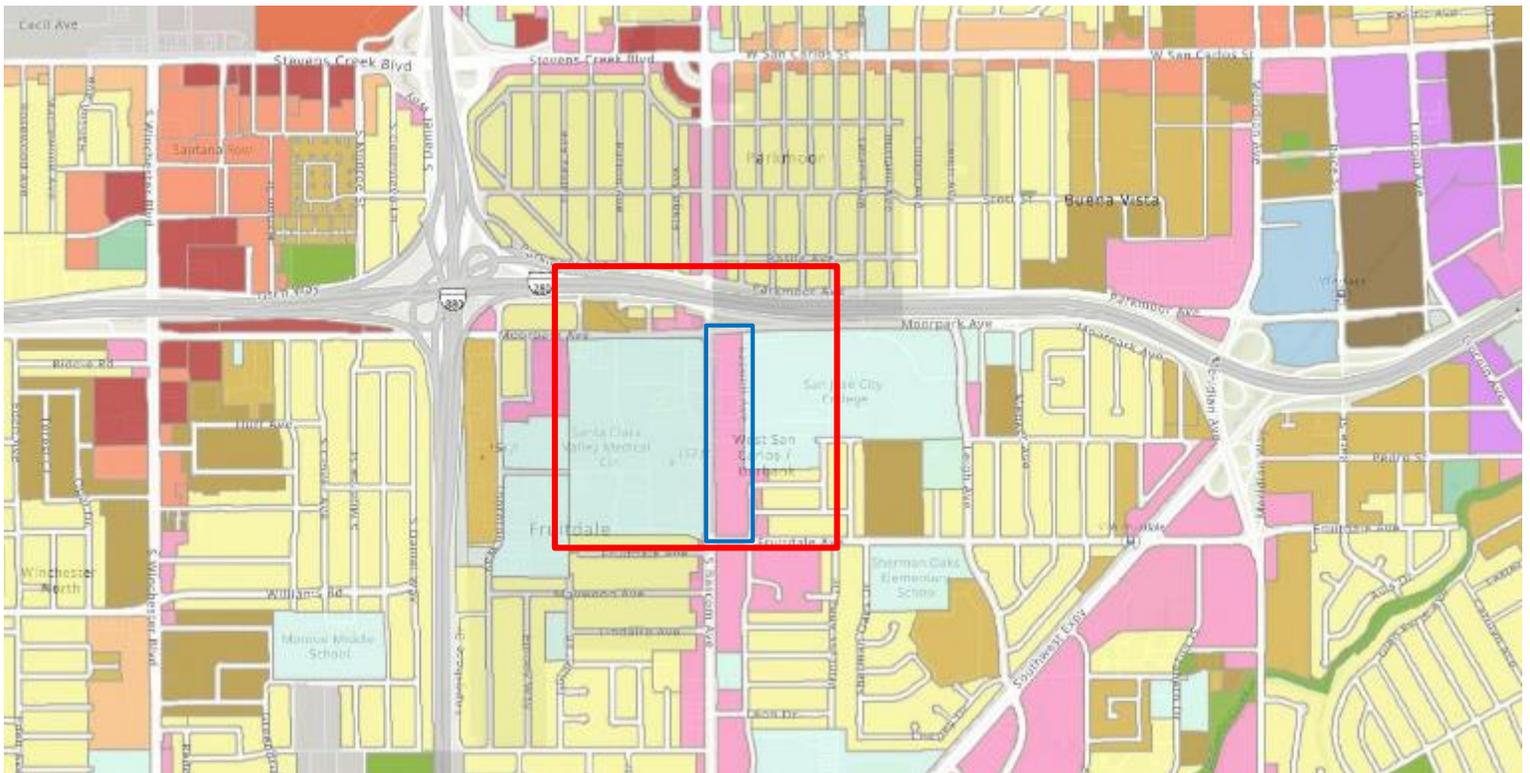
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We believe that the proposed Light Rail corridor down Stevens Creek Blvd in San Jose would be only one aspect of the most beneficial form of mass transit. This corridor solution does not solve the “first mile, last mile” issue for passengers traveling to and from the light rail line.

We propose an elevated system of solar powered PRT networks, as designed by the San Jose State engineering students; called the Spartan Super-way. The PRT system can solve the “first mile, last mile” issue, which will enable people to go car free. Stations can be smaller and placed to provide no more than a quarter mile walking distance to the station. The PRT system can help to alleviate congestion on the roadways by providing another form of public transportation, that allows users to go from point to point, like a car.

We are proposing a master plan development centered around Santa Clara Valley Medical Center and San Jose City College. Our proposal focuses on the rezoning of a strip along the eastern side of S Bascom Ave in between the hospital and college. Our proposed development will feature a PRT network that connects back to the Stevens Creek Blvd corridor.

Master Plan Zoning Area – Envision San Jose 2040 General Plan Land Use Map



Legend

Master Plan Site

Rezoning / Focus Area

Legend

General Plan 2040

- Agriculture
- Combined Industrial/Commercial
- Commercial Downtown
- Downtown
- Heavy Industrial

- Heavy Industrial
- Industrial Park
- Light Industrial
- Lower Hillside
- Mixed Use Commercial
- Mixed Use Neighborhood
- Neighborhood/Community Comn
- Open Hillside

- Open Space, Parklands and Habit
- Private Recreation and Open Spac
- Public/Quasi-Public
- Regional Commercial
- Residential Neighborhood
- Rural Residential
- Transit Employment Center
- Transit Residential

- Transit Residential
- Transportation and Utilities
- Urban Residential
- Urban Village
- City of San Jose Boundary

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Site Figure Ground Map

Images from <https://www.google.com/maps/@37.316142,-121.9311836,15.25z>

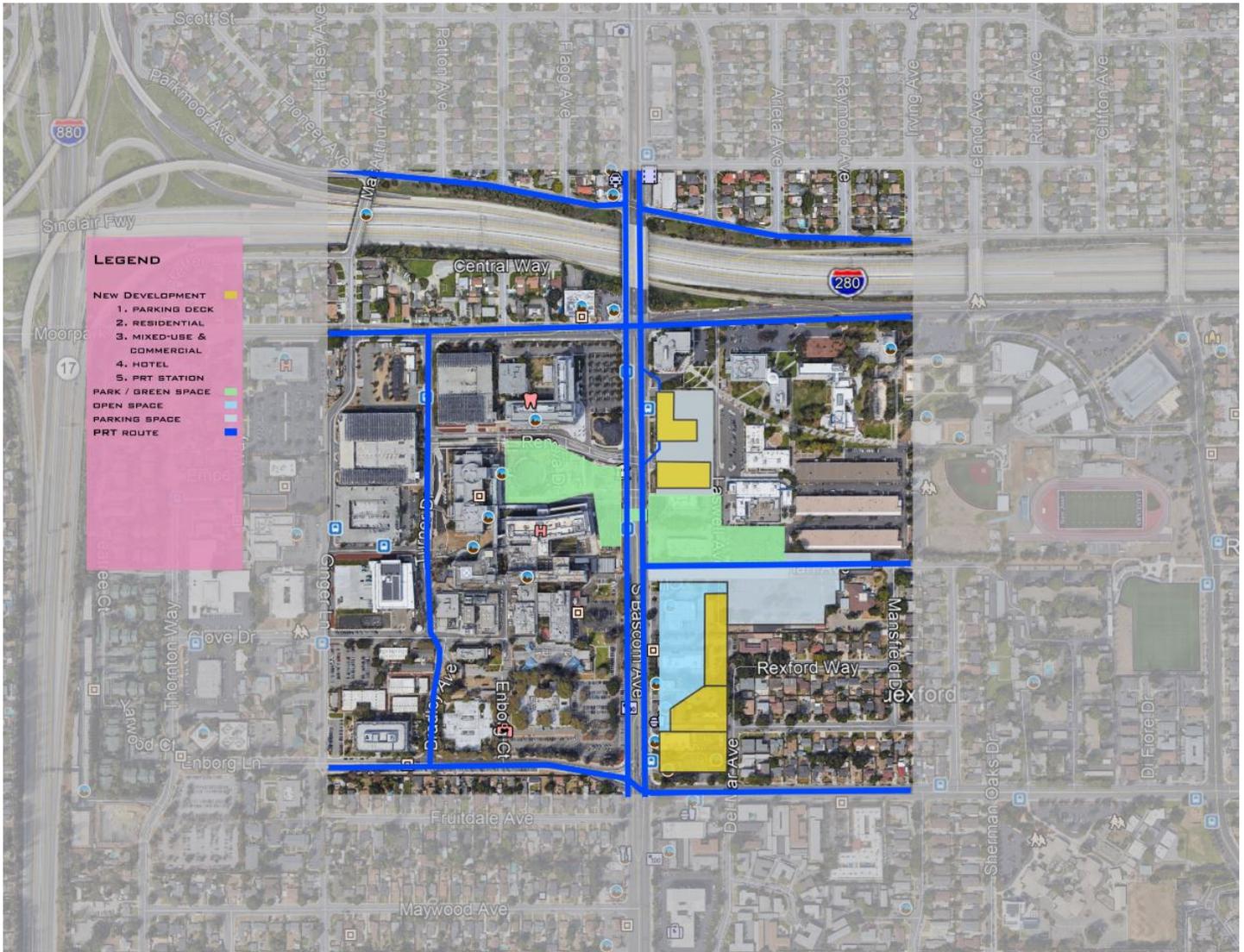
Edited by Xi Wu, Pete Galick, Diego Ortiz

Legend

- Master Plan Site
- Rezoning / Focus Area

This figure ground map shows the site as it currently stands. Our focus area, highlighted by the yellow rectangle, is part of a being rezoned to Neighborhood / Community Commercial.

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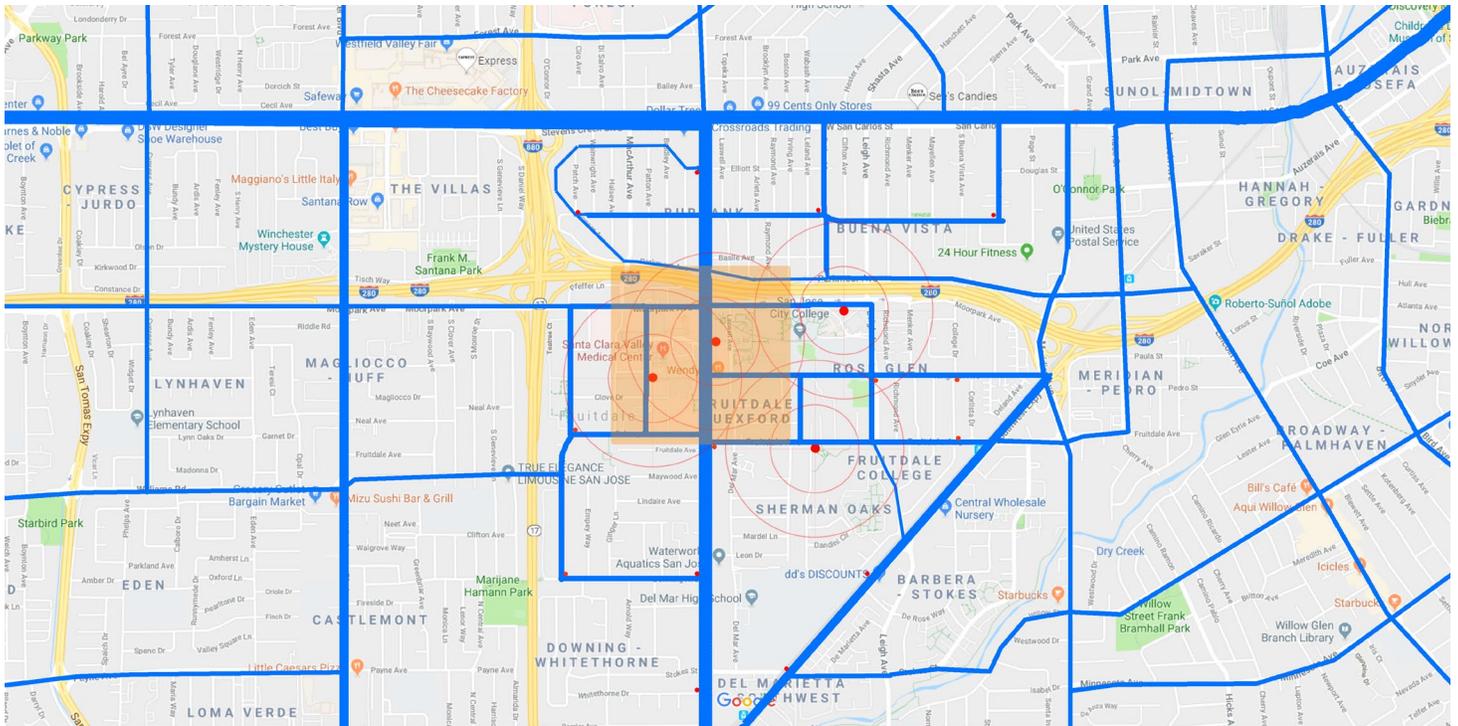


Proposed Master Plan

Images from <https://www.google.com/maps/@37.316142,-121.9311836,15.25z>
Edited by Xi Wu, Pete Galick, Diego Ortiz

Our master plan proposes new developments along the rezoning strip on South Bascom Avenue. We will connect to the Stevens Creek Corridor via South Bascom Avenue. Our new development implements a large park connecting the Santa Clara Valley Medical Center and San Jose City College. We propose mixed-use commercial buildings along the S Bascom Ave strip. These mixed-use buildings will include retail, hotel, residential, commercial, food, alongside other potential amenities for both hospital and campus lifestyles.

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PRT / PodCar Routes: Network Overview

Images from <https://www.google.com/maps/@37.316142,-121.9311836,15.25z>

Edited by Xi Wu, Pete Galick, Diego Ortiz

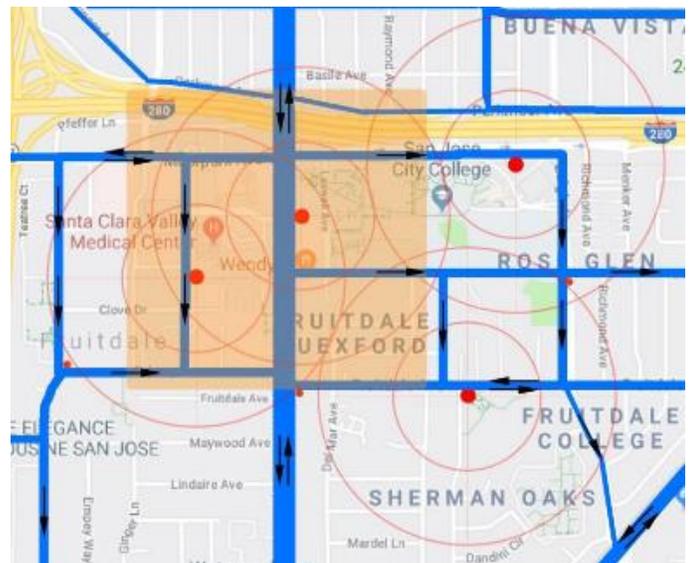
PRT / PodCar Routes: Site Specific

Legend

- PODCAR ROUTE
- PODCAR BIG STATION
- PODCAR SMALL STATION
- WALKING DISTANCES
- 1/8 MILE RADIUS
- 1/4 MILE RADIUS

Cost Per Passenger Mile

	Bus	Light Rail	Car	PRT
San Jose	\$1.02	\$1.07		
National	\$0.59	\$0.45	\$0.56	\$0.04



Better Performance: Without repetitive start-stops, PRT provides a faster and more efficient transportation system with average speeds of 30 mph for PRT, as compared to 24 mph for cars, 18 mph for trains, and 8- 12 mph for buses for similar service requirements.

Reduces Congestion: The small real estate footprint, grade separation, rail stacking, separate and additional networks to existing infrastructure, and computerized route optimization minimize ground congestion issues.

Reduces Pollution: PRT utilizes a solar renewable energy system that eliminates harmful CO2 emissions. Rubber tires on concrete or steel rails, as well as low weight and speed produce less noise and vibration.

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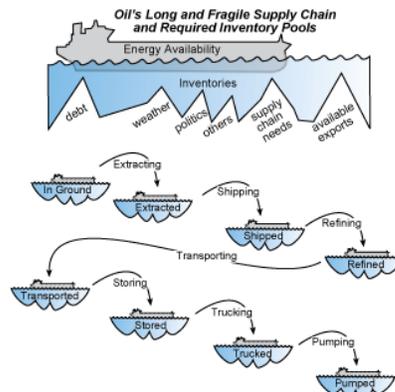
Increases Safety & Time Savings: Existing networks have low injury rates primarily due to slower maximum speeds as well as one-directional movement and limited opportunity for collisions. Morgantown PRT has delivered 110 million injury-free and onsite emissions-free passenger miles.

Provides Flexible Transportation: PRT guideways can be laid out in a network or grid (as well as point to point), and there is more than one route connecting an origin and destination. Therefore, service can be maintained when a single guideway is out of service. Stations and guideways can be above ground and mitigate ground transportation issues

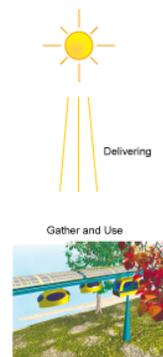
Life requires energy.

The age of cheap oil has past.

Your future is a choice, adapt or not.



JPods' Supply Chain



3 DE ANZA COMMUNITY COLLEGE & SURROUNDING AREA

Thank you for allowing the public to submit to you ideas to improve transportation within San Jose and surrounding communities. This report's goal is to demonstrate, by using a multiple of resources, how transportation can be simplified and less hectic along the Stevens Creek Line.

The research focuses upon the De Anza College and surrounding communities. Currently, there are four choices of travel at De Anza College via the car, the bicycle, the bus, or walking. As seen in figures 1.1, 1.2, and 1.3, the main thoroughfare for each transportation mode is virtually the same.

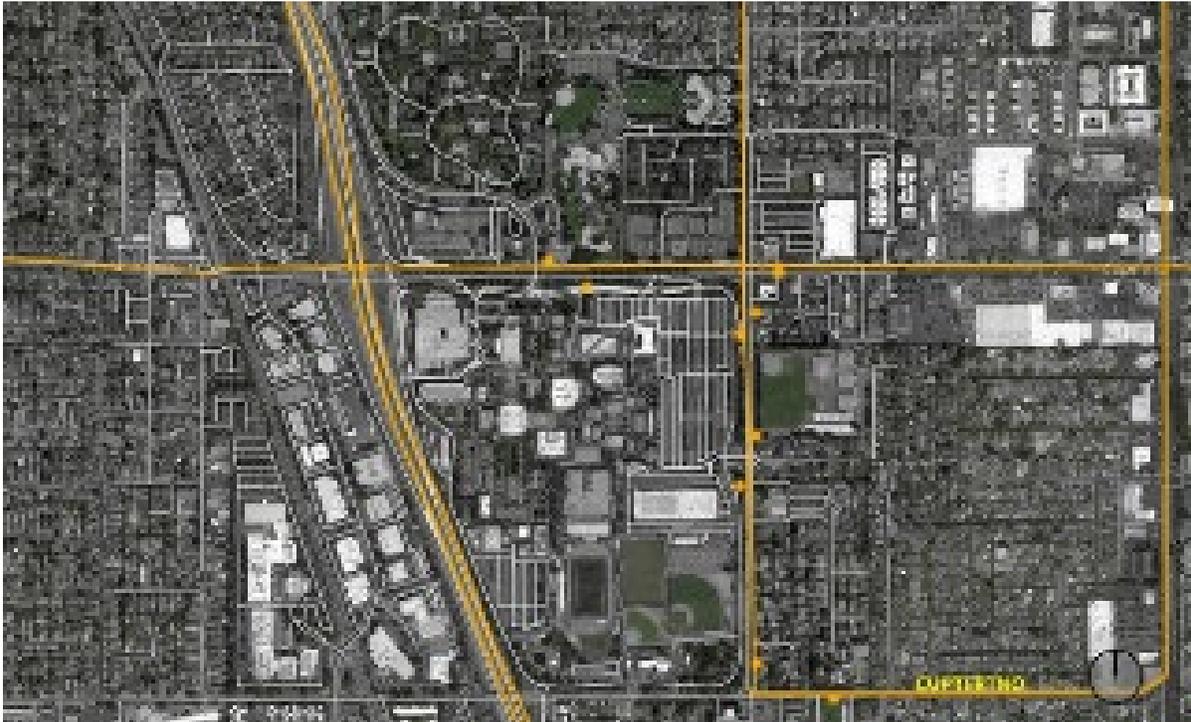


Figure 3.1 Current Bus Routes and Stations Servicing De Anza College

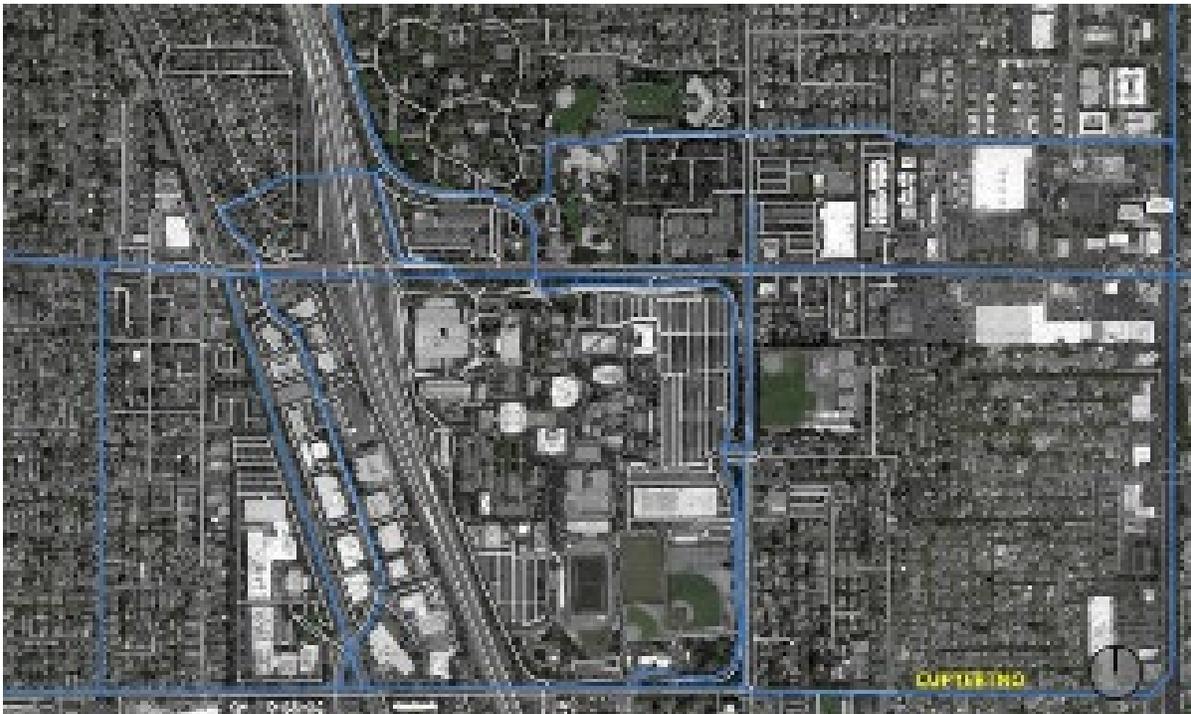


Figure 3.2 Current and Future Bicycle Routes

DE ANZA COMMUNITY COLLEGE & SURROUNDING AREA



Figure 3.3 Current and Future Main Pedestrian Routes Servicing De Anza College

- PODCAR STATION
- PODCAR NETWORK
- BUS ROUTES
- PEDESTRIAN PATHS
- BICYCLE PATHS

We envision a use of elevated podcar only on primary and secondary streets, in addition to P(CG, Res), CG, and BA zoning districts. R1, R2, and R3 zoning districts would have use of localized automated podcar ground transportation through neighborhoods bringing travelers to localized podcar stations as shown in Figure 3.4.

DE ANZA COMMUNITY COLLEGE & SURROUNDING AREA

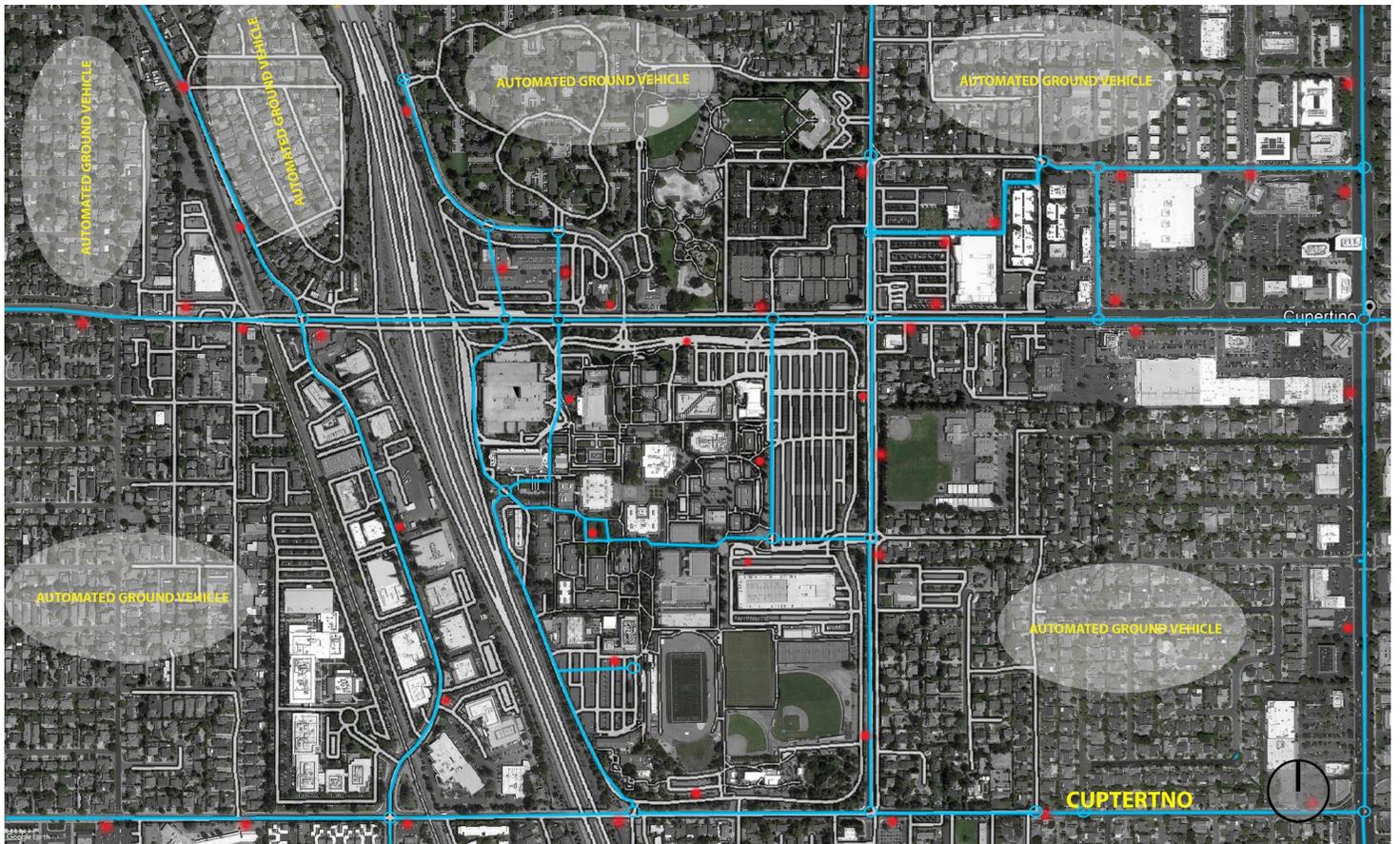


Figure 3.4. Conceptual Design of Podcar Network Systems Servicing De Anza College

- PODCAR STATION
- PODCAR NETWORK
- BUS ROUTES
- PEDESTRIAN PATHS
- BICYCLE PATHS

Podcar stations would be much smaller than mass transit stations. Its size would be determined by the number of passengers traveling through that station per day.

DE ANZA COMMUNITY COLLEGE & SURROUNDING AREA

Stations would be offline allowing for continuous travel on elevated podcar lines. The Network pattern would allow the system to access most efficient routes.

This system of networks would increase the freedom of choice of travel as well as reduce traffic along Steven Creeks Blvd.

Making any mode of transportation the only option will threaten citizens' freedom of choice. Gradually incorporating a better form of travel and giving time for citizens' to experience will allow for a much smoother transition. Gradually, less favored modes of transportation could be removed.

Our plan also consists of developments North of De Anza College at the Oaks Shopping Center and within De Anza College creating more walkable paths. The development will contain; multifamily housing, a hotel, retail, office space, and more green space with gathering spaces (see figure 3.5).

The pod car will be incorporated within this master plan. The pod car network system will increase efficient travel along Stevens Creek Blvd. and connect Cupertino with San Jose and the San Jose Airport. The goal of adding in a pod car system is to reduce the need for a gasoline powered vehicle reducing the amount of emissions. The podcar system will be solar powered.

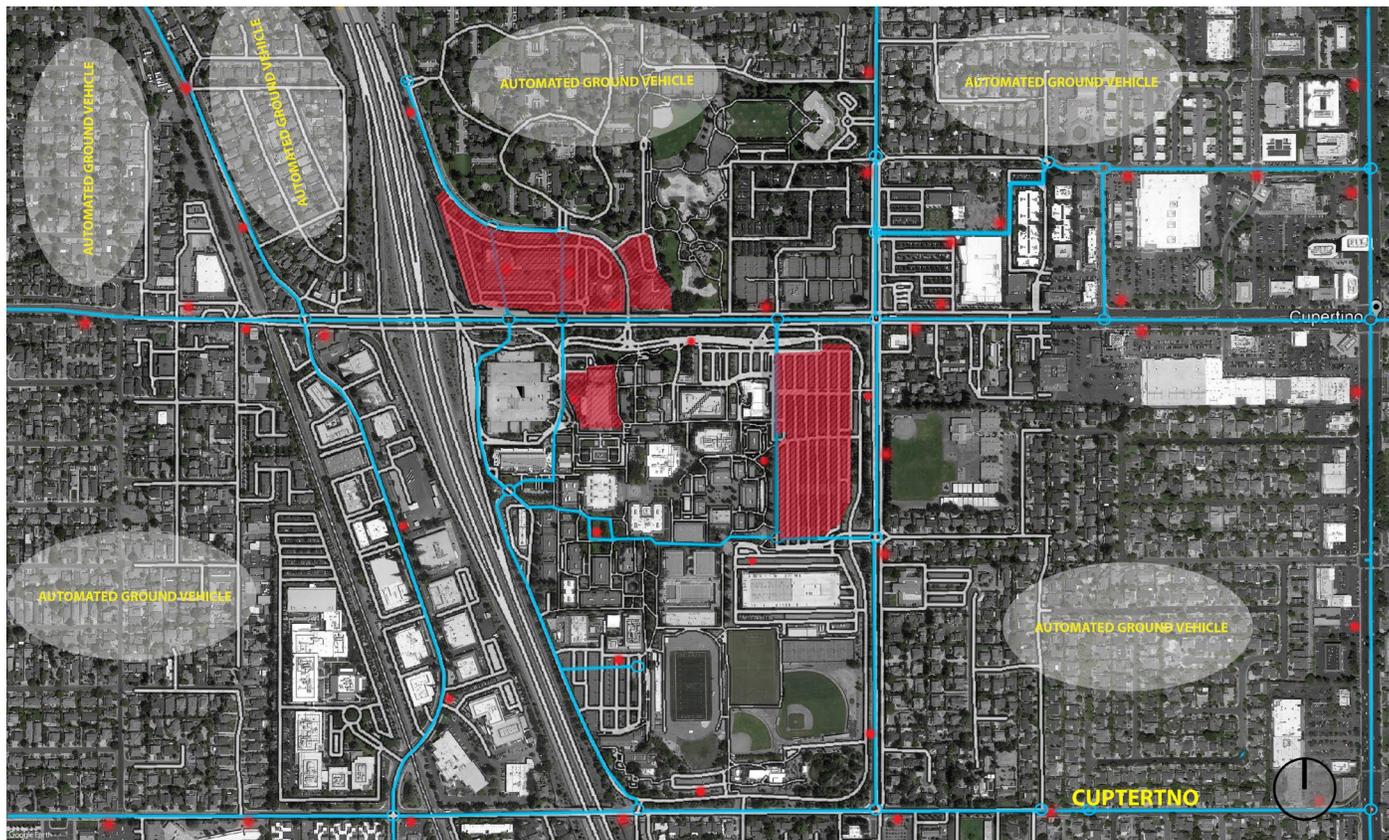


Figure 3.4 Proposed site areas for redevelopment intergrading the podcar network

- PODCAR STATION
- PODCAR NETWORK
- BUS ROUTES
- PEDESTRIAN PATHS
- BICYCLE PATHS