

AGGIE RESEARCH CAMPUS TRANSPORTATION IMPACT STUDY

FEHR  PEERS

City of Davis
Bicycling, Transportation, and Street Safety Commission
April 9, 2020

PURPOSE

- Basis for the transportation section of the Aggie Research Campus (ARC) Subsequent EIR
- Evaluate the potential effects of the ARC Project on the surrounding transportation system under existing and future conditions for the following:
 - Roadway operations
 - Bicycle and pedestrian facilities
 - Transit service and facilities
 - Vehicle miles traveled (VMT)
- Identify mitigation measures in instances where the project would cause an impact to the transportation system

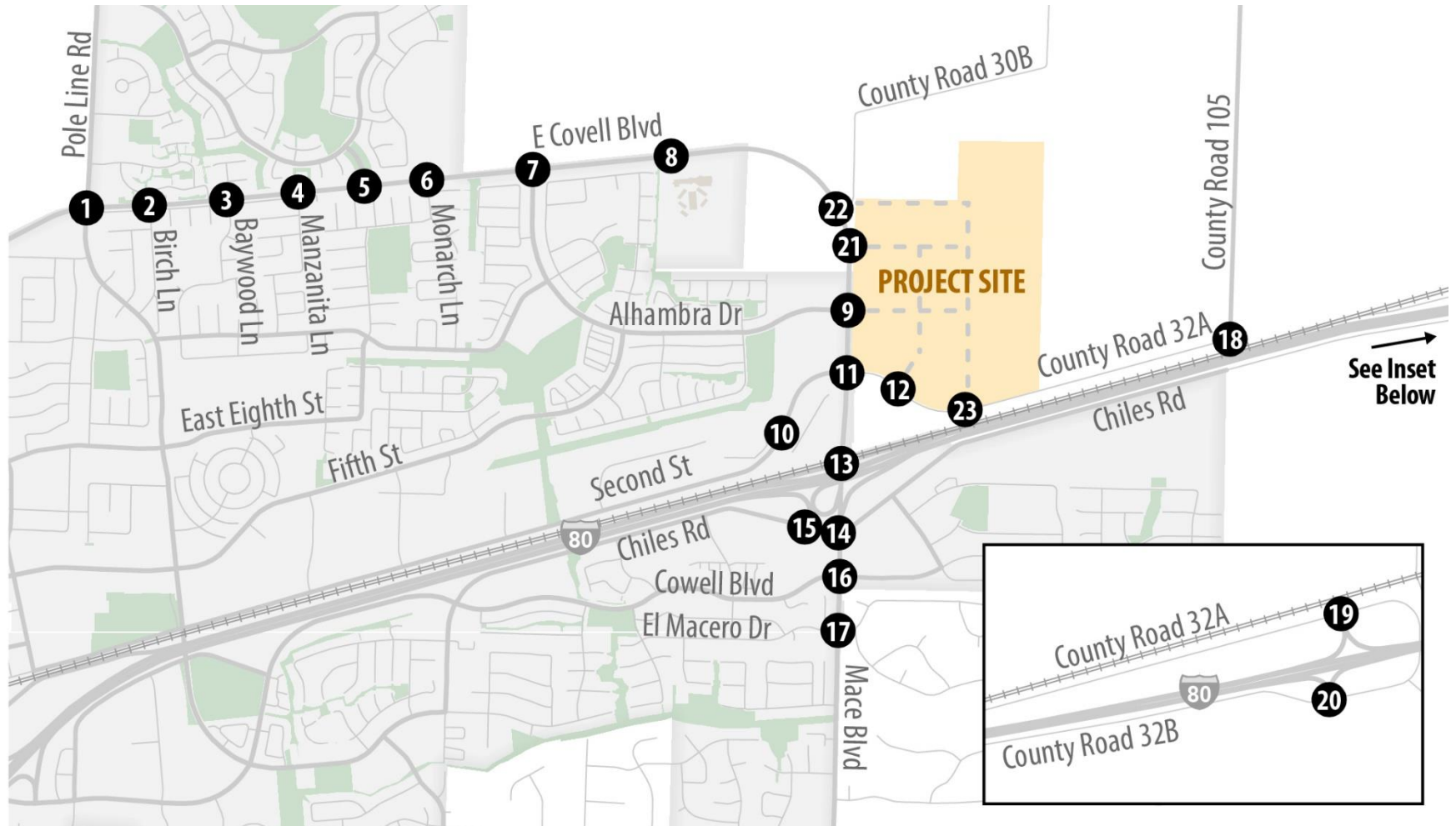
PROJECT OVERVIEW

Land Use	Quantities
Office/R&D	1,510,000 sf
Advanced Manufacturing	884,000 sf
Hotel/Conference	160,000 sf (150 rooms)
Ancillary Retail	100,000
Commercial Total	2,654,000 sf
Single-Family Residential	280 dwelling units
Multi-Family Residential	570 dwelling units
Residential Total	850 dwelling units

Time Period	External Vehicle Trips
Daily	24,650
AM Peak Hour	2,325
PM Peak Hour	2,561



STUDY AREA



ROADWAY OPERATIONS

EXISTING CONDITIONS

- Peak hour traffic volumes and delay along the Mace Boulevard corridor have increased in recent years
 - Particularly noticeable when eastbound I-80 is congested (e.g., Friday afternoons/evenings)
- Data utilized for intersection operations analysis was collected on Thursday afternoons/evenings in Spring and Fall 2019 when congested conditions on Mace Boulevard were present
- City level of service (LOS) standard is to maintain LOS E or better
- Currently, all study intersections on Mace Boulevard and East Covell Boulevard operate acceptably based on this threshold

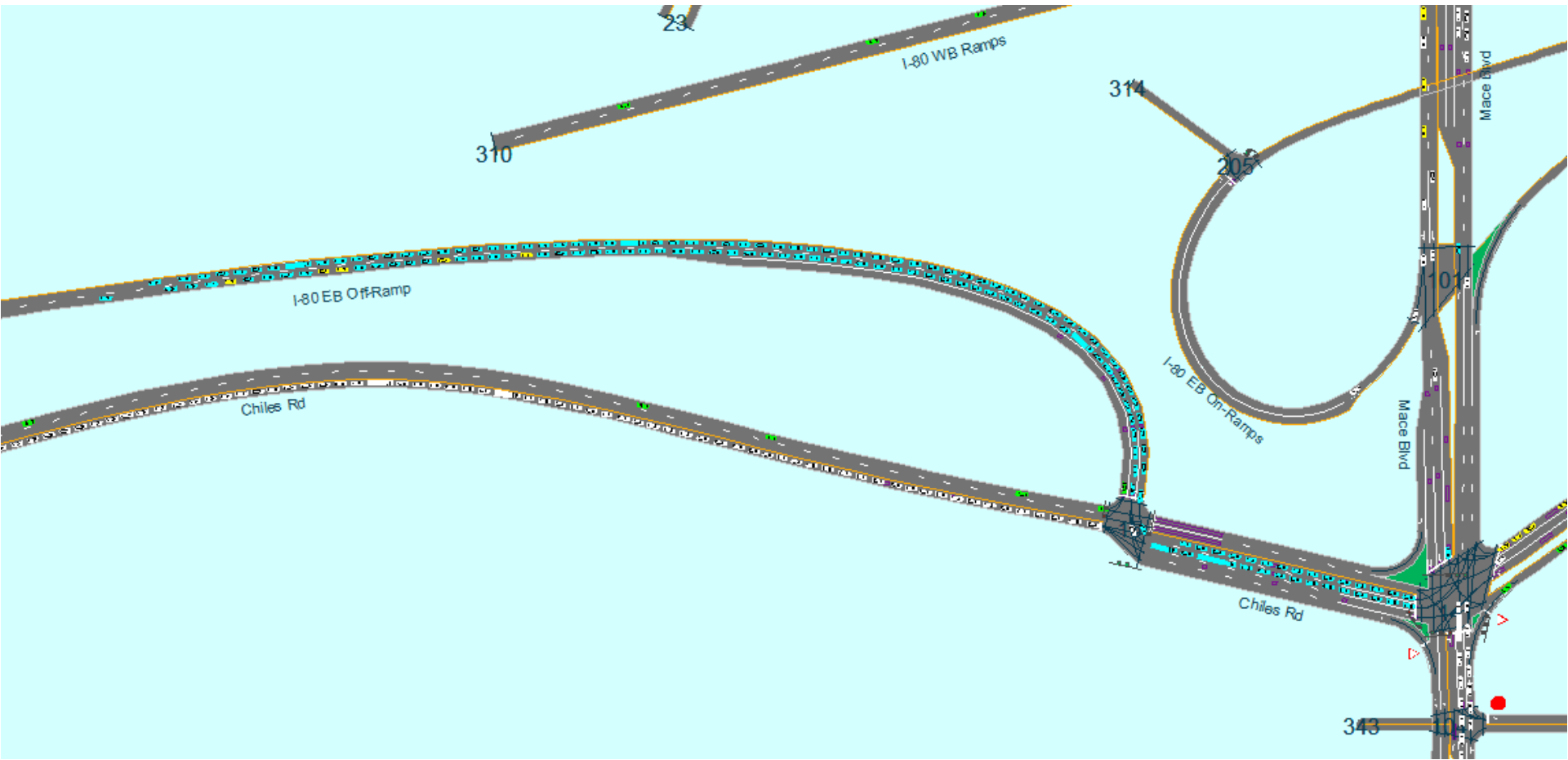
ROADWAY OPERATIONS

EXISTING PLUS PROJECT CONDITIONS

- The ARC Project would increase peak hour traffic volumes and delay on roadways surrounding the project site
- Major vehicular routes to and from the project site include:
 - **Mace Boulevard** to/from the I-80 interchange at Mace Boulevard/Chiles Road
 - **CR 32A** to/from the I-80 interchange at CR 32A/Chiles Road (near the Yolo Causeway)
 - **East Covell Boulevard** to/from SR 113 and Pole Line Road

ROADWAY OPERATIONS

EXISTING PLUS PROJECT CONDITIONS – AM PEAK HOUR NO MITIGATION



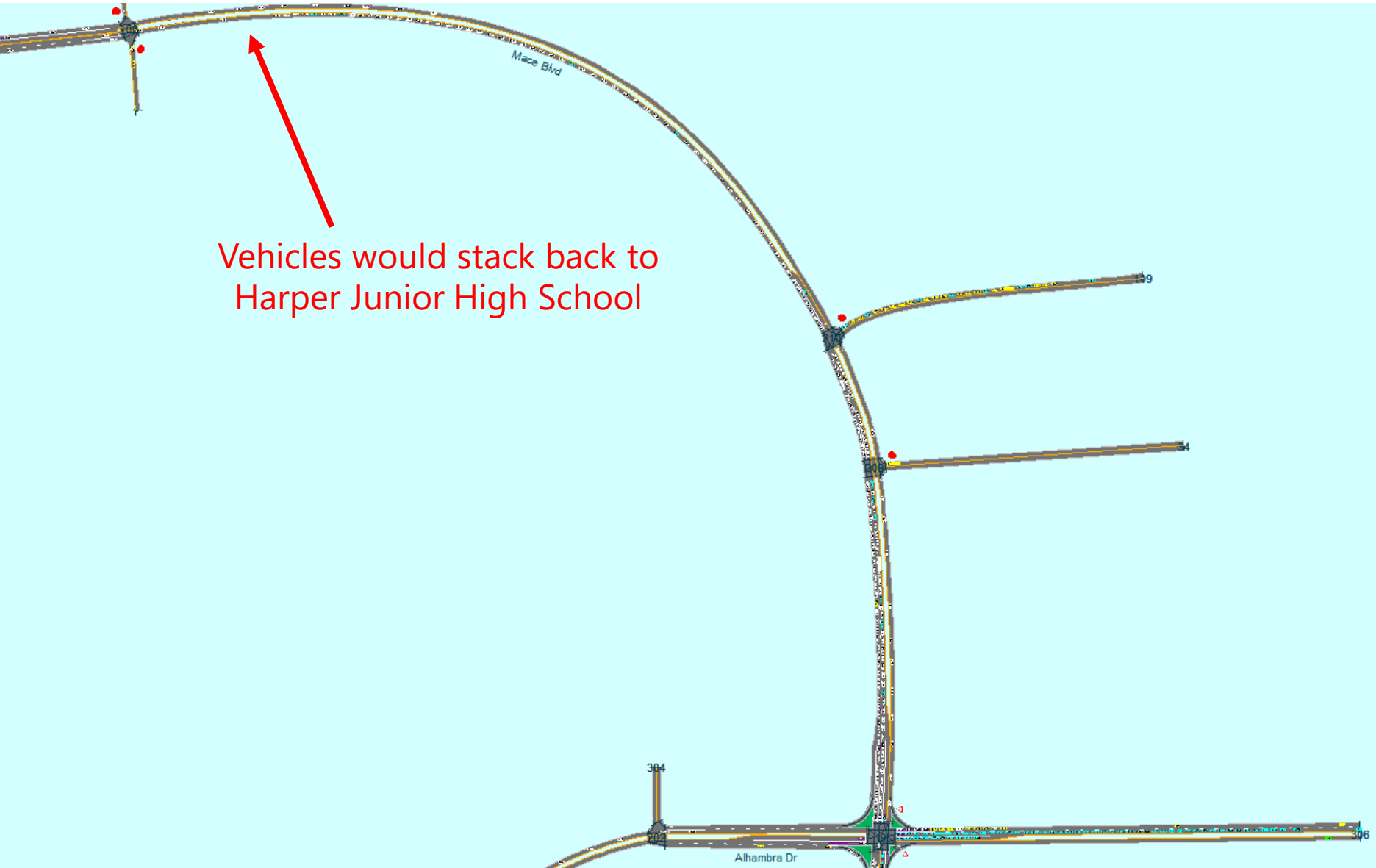
ROADWAY OPERATIONS

EXISTING PLUS PROJECT CONDITIONS – PM PEAK HOUR NO MITIGATION



ROADWAY OPERATIONS

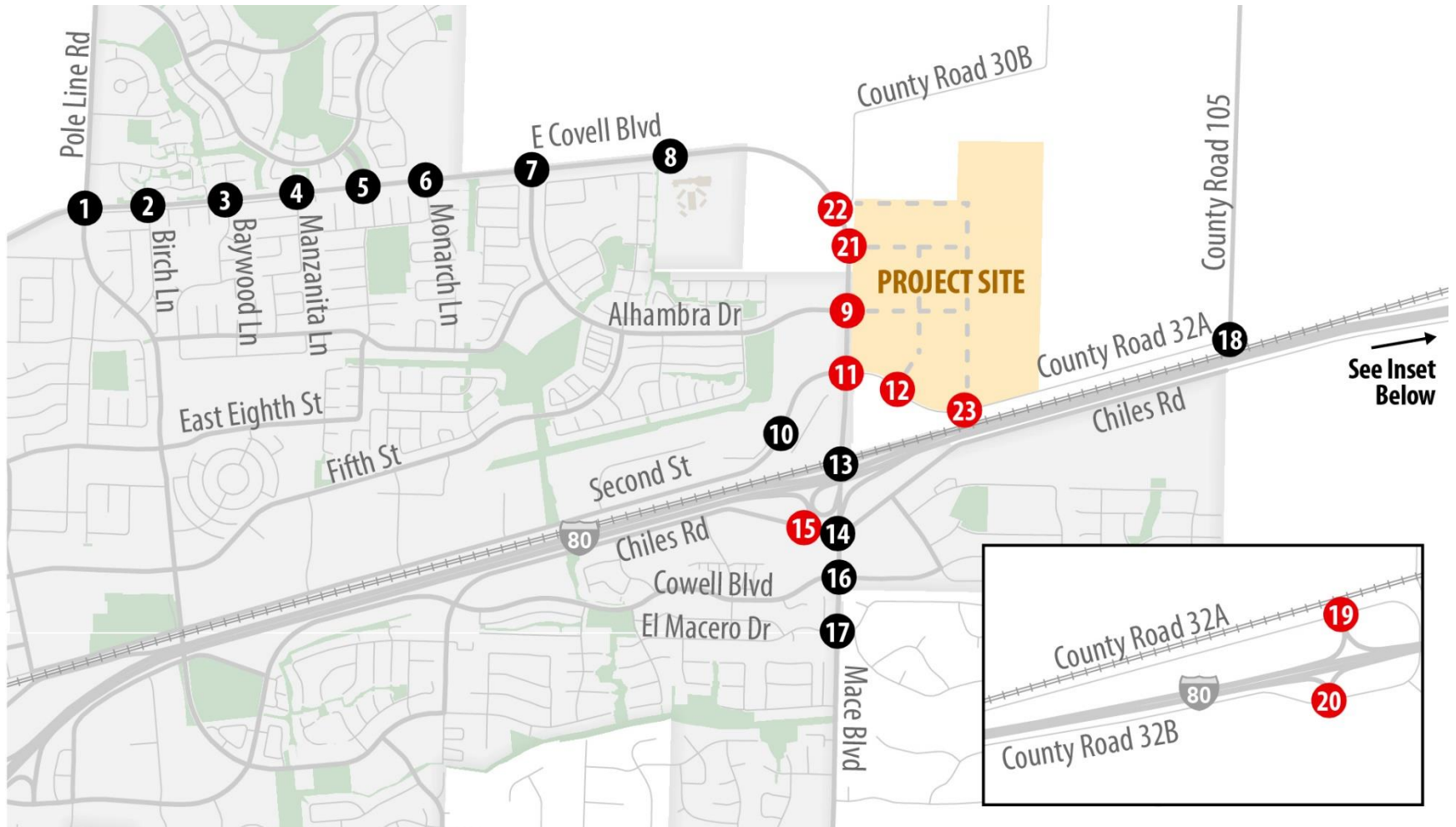
EXISTING PLUS PROJECT CONDITIONS – PM PEAK HOUR NO MITIGATION



Vehicles would stack back to Harper Junior High School

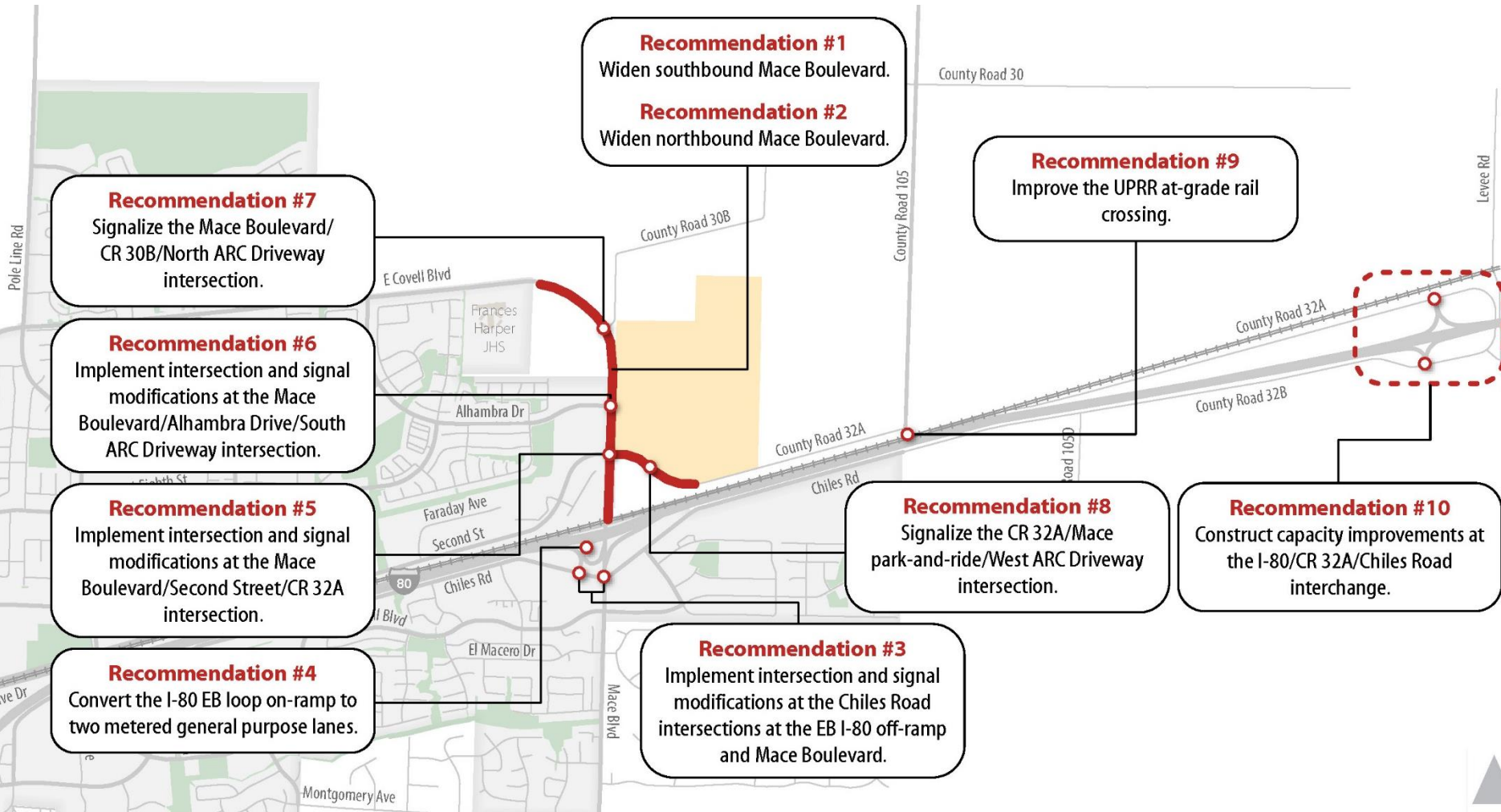
ROADWAY OPERATIONS

EXISTING PLUS PROJECT CONDITIONS – PM PEAK HOUR



ROADWAY OPERATIONS

ROADWAY CAPACITY & OPERATIONAL IMPROVEMENT MITIGATIONS



ROADWAY OPERATIONS

EXISTING PLUS PROJECT CONDITIONS

Impact	Significant. The ARC Project would cause impacts to 9 study intersections and to the I-80 mainline. The project would also cause off-ramp vehicle queues to spill back to the I-80 mainline.
Mitigation Measure(s)	Roadway Capacity and Operational Improvements on Mace Boulevard, CR 32A, and the I-80 mainline. The precise timing and nature of improvements would be determined by focused traffic studies conducted prior to each phase of ARC development. TDM Plan to reduce project-related vehicle trips on impacted roadways.
Significance after Mitigation	Significant and unavoidable. The identified roadway improvements would lessen the effects of project-related traffic on roadway operations. However, the improvements cannot be guaranteed due to implementation and funding uncertainties (e.g., Caltrans would need to approve potential interchange improvements).

ROADWAY OPERATIONS

CUMULATIVE PLUS PROJECT CONDITIONS

- Considers project effects alongside future land use and transportation system changes:
 - City of Davis residential and commercial growth
 - UC Davis 2018 Long Range Development Plan student enrollment, on-campus housing, and employee growth
 - SACOG region residential and commercial growth
 - I-80 HOV lanes
- Background traffic on Mace Boulevard would increase by ~30%
- Due to background traffic growth, ARC Project effects on peak hour roadway operations would be more pronounced compared to Existing Plus Project conditions

ROADWAY OPERATIONS

CUMULATIVE PLUS PROJECT CONDITIONS

Impact	Significant. The ARC Project would cause impacts to 11 study intersections and to the I-80 mainline. The project would also cause off-ramp vehicle queues to spill back to the I-80 mainline.
Mitigation Measure(s)	Roadway Capacity and Operational Improvements on Mace Boulevard, CR 32A, and the I-80 mainline. The precise timing and nature of improvements would be determined by focused traffic studies conducted prior to each phase of ARC development. TDM Plan to reduce project-related vehicle trips on impacted roadways.
Significance after Mitigation	Significant and unavoidable. The identified roadway improvements would lessen the effects of project-related traffic on roadway operations. However, the improvements would not restore roadway operations to acceptable levels. Also, the improvements cannot be guaranteed due to implementation and funding uncertainties.

BICYCLE & PEDESTRIAN FACILITIES

RIDING ON PAVEMENT

Bikes Separated from Motor Vehicles by Barrier

- Shared-Use Path / Bike Path
- Cycle Track, Two-Way
- Cycle Track, One-Way

Bikes Separated from Motor Vehicles by Painted Markings

- Bike Lane
- Bike Lane, One-Way

Bikes Ride With Motor Vehicles

- Bike and Pedestrian Priority Road
- Limited Motor Vehicle Access to UC Davis Core
- Sharrow
- No Bike Facility
- No Bike Facility, One-Way
- No Bike Facility, Fast Vehicle Speed
- Parking Lot Connection
- Roundabout

Pedestrian Focused Areas

- Sidewalk Connection
- Walk Your Bike
- No Sidewalk Riding Downtown

RIDING ON DIRT AND GRAVEL

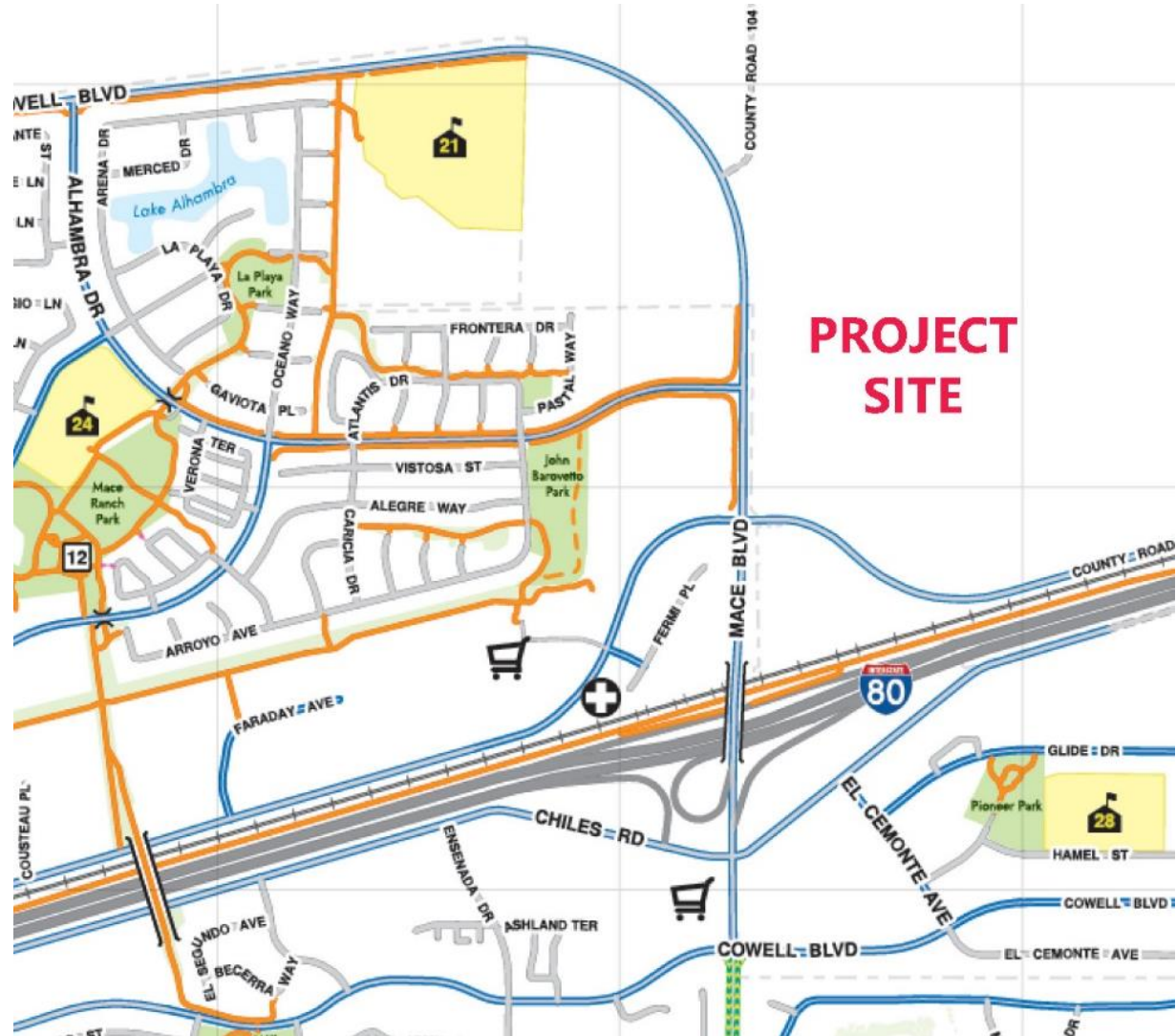
- Unpaved Path
- Unpaved Road

PLACES AND LANDMARKS

- Park / Arboretum
- School Grounds
- Building
- Shopping
- Post Office
- Body of Water
- Bridge / Tunnel

BOUNDARIES AND BARRIERS

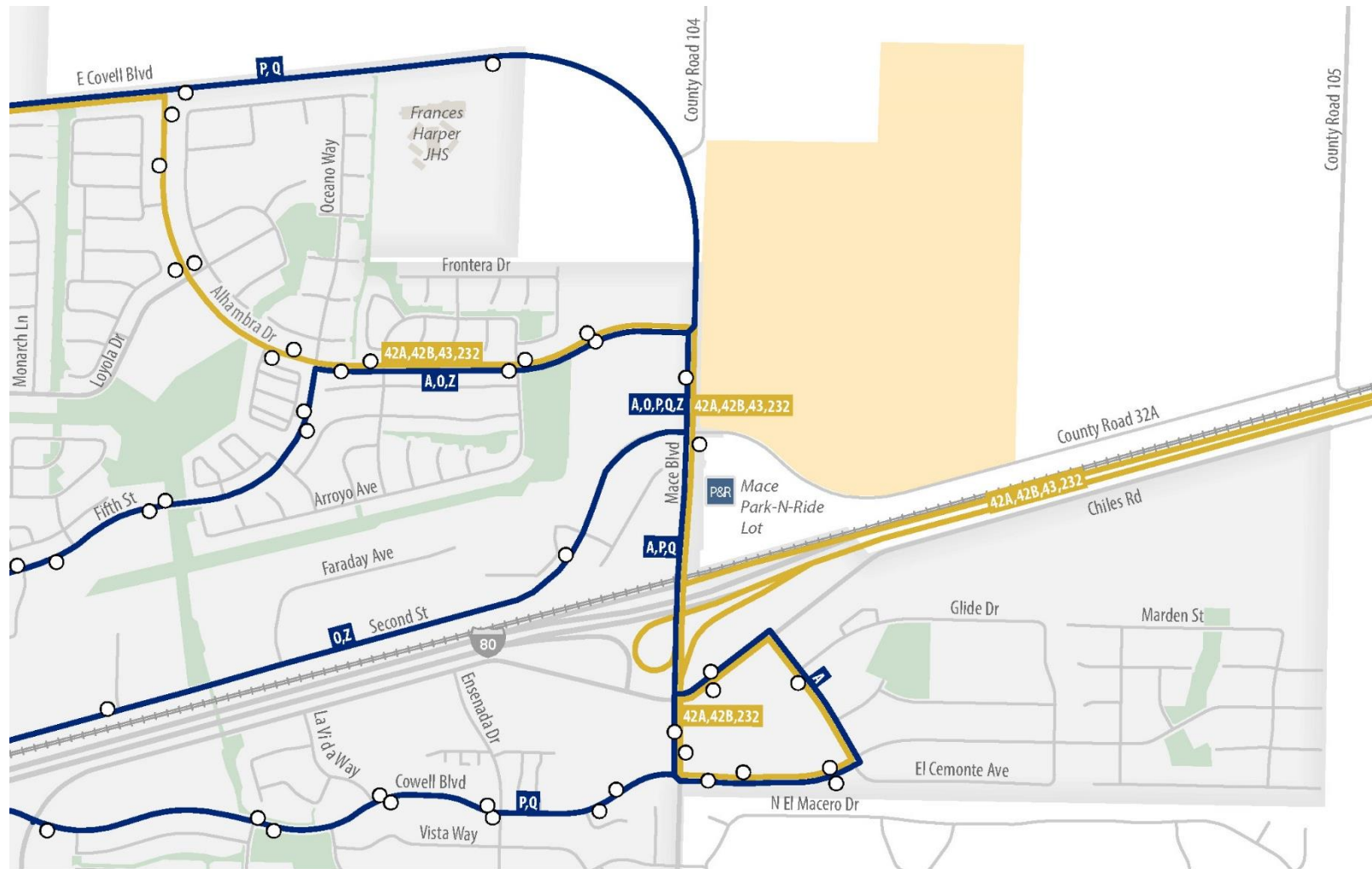
- Freeway
- Davis City Limits
- Railroad
- UC Davis Boundary



BICYCLE & PEDESTRIAN FACILITIES

Impact	Significant. The ARC Project would increase the potential for conflicts involving bicyclists and pedestrians at locations where bicyclists and pedestrians mix with vehicles.
Mitigation Measure(s)	Mace Boulevard Corridor Plan to identify multimodal safety and operational improvements on Mace Boulevard. Bicycle and Pedestrian Facility Improvements on Mace Boulevard and CR 32A to reduce the potential for conflicts involving bicyclists and pedestrians (e.g., crossing improvements at Mace Boulevard intersections and the CR 32A/UPRR crossing).
Significance after Mitigation	Significant and unavoidable. The bicycle and pedestrian facility improvements would lessen the effects of the project on bicycle and pedestrian facilities. However, the improvements cannot be guaranteed due to implementation and funding uncertainties.

TRANSIT SERVICE & FACILITIES

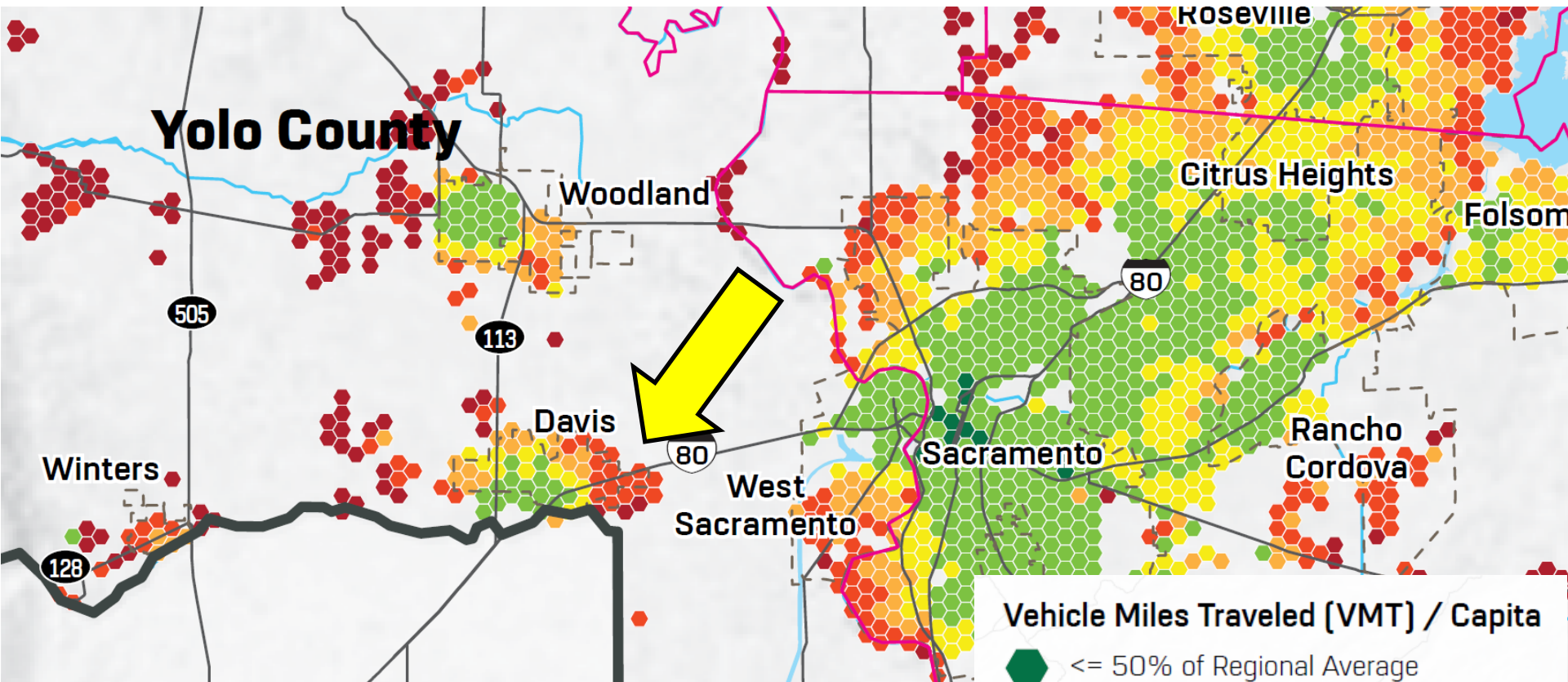


- Transit Stop
-  Unitrans Route
-  Yolobus Route
-  Project Site
-  Davis City Limit







TRANSIT SERVICE & FACILITIES

Impact	Significant. The ARC Project would increase delays and diminish on-time performance for Unitrans and Yolobus service operating near the project site.
Mitigation Measure(s)	Mace Boulevard Corridor Plan to identify multimodal safety and operational improvements on Mace Boulevard. Roadway Capacity and Operational Improvements on Mace Boulevard to reduce delay experienced by transit service. Mace Boulevard Bus Stop Enhancements to improve transit access to/from the project site.
Significance after Mitigation	Significant and unavoidable. The transit operations improvements would lessen delays experienced by transit that would otherwise be caused by the ARC Project. However, the improvements cannot be guaranteed due to implementation and funding uncertainties.

VEHICLE MILES TRAVELED



Vehicle Miles Traveled (VMT) / Capita

-  <= 50% of Regional Average
-  <= 50-85% of Regional Average
-  <= 85-100% of Regional Average
-  <= 100-115% of Regional Average
-  <= 115-150% of Regional Average
-  > 150% of Regional Average

VEHICLE MILES TRAVELED

Impact	Significant. VMT per service population generated by the ARC Project would exceed applicable thresholds relative to local and regional levels.
Mitigation Measure(s)	TDM Plan to reduce project-generated VMT per service population in accordance with applicable VMT thresholds and City average vehicle ridership (AVR) targets.
Significance after Mitigation	Significant and unavoidable. The TDM Plan would include strategies to reduce vehicle travel demand and, in turn, VMT per service population associated with the ARC Project. However, the effectiveness of TDM strategies is uncertain and their ability to meet applicable VMT per service population thresholds cannot be guaranteed.

QUESTIONS FOR STAFF?



AGGIE RESEARCH CAMPUS

Power Point Presentation for the BTSSC, April 9, 2020

The Idea of an Innovation Center in Davis was Home Grown and has been Contemplated and Studied for Nearly 30 Years

- 1992 – Business Development in Davis Report (identified the need)
- 1998 – comparative evaluation of Business Park sites for inclusion in General Plan
- 2001 – adopted General Plan
- 2003 – UC Davis Science and Technology Innovation Center Feasibility Study
- 2007 – Battelle Study Analysis of Trends in North American Research Parks
- 2010 – UC Davis Blue Ribbon Committee Review of Tech Transfer and Commercialization
- 2010 – City's Business Park Land Strategy
- 2012 – Studio 30 Final Report and City Resolution (ARC is an identified site)
- 2014 – City releases Request For Expressions of Interest (RFEI)

History of Aggie Research Campus Proposal

Summer 2014 Responded to the City RFEI along with two others

Late 2015 MRIC is the last respondent remaining

April 2016 Project was placed on hold

Fall 2017 EIR certification

Summer 2019 revised and recommencement of processing



MRIC Mixed-Use Alternative
Illustrative Site Plan



Aggie Research Campus
Illustrative Site Plan

Benefits of the Project

Helps Address City Fiscal Sustainability and Improves Quality of Life

The Project generates more than \$2 million annually for the City of Davis for use on roads, trails, public safety, libraries and other valued City services, and generates millions more for local schools, all without raising taxes.

Solidify Davis' Role as the Ag-Tech, Clean-Tech & Food Science Capital of the World

The Project aims to attract global companies looking to foster a deeper relationships with UC Davis, support UCD tech-transfer, and advance key sectors synergistic to the long range goals of UC Davis and the City of Davis.

Offers New and Unique Housing Options

Provides much-needed housing designed for employees working at the site, including a considerable contribution to affordable housing.

Creates and Retains Good Local Jobs

Offer thousands of good jobs for Davis residents, UC Davis students, and graduates –retaining more brainpower and talent in the community. The Project will provide an alternative for residents who currently commute long distances to work in advanced fields.

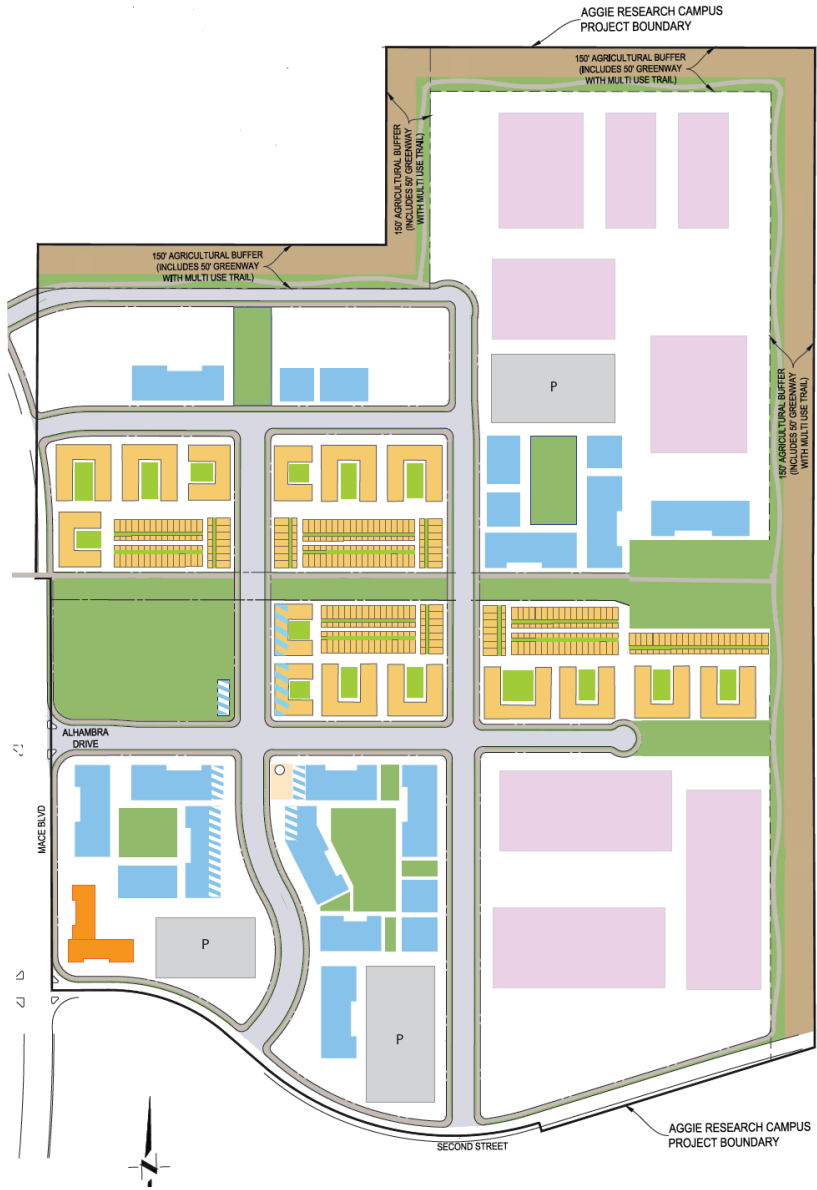
Project Entitlements have been Simplified

1. Annexation into the City
2. General Plan designation
3. Pre-Zoning: Preliminary Planned Development
4. Development Agreement
5. Approval of Baseline Project Features for the Ballot

Subsequent Entitlements

1. Maps
 - Street width, trail design, drainage facility design, etc
2. Final Planned Development
 - design guidelines, development standards, landscaping plans
 - formation of maintenance districts
 - sustainability implementation plan
 - Transportation Demand Management Plan (TDM)
3. Site Plan and Architectural Review
 - demonstrate compliance for each building, materials, project specific components

Aspects of this Project will be Publicly Reviewed Many Times Throughout its Development.



Total Programs

- Office/R&D : 1,510,000 sqft.
- Adv. Manufacturing 884,000 sqft.
- Hotel Conference : 160,000 sqft.
- Ancillary Retail: 100,000 sqft.

Total Sq Footage : 2,654,000 sqft.

Proposed Housing

Total number of units: 850 units
15-50 du/ac

Project Data

Project Site Boundary: 194 AC

Project Areas Acreage:

- Office R&D 44.7 AC
- Adv. Manufacturing 57.2 AC
- Residential/MU 27.4 AC
- Parks/Greenways 15.0 AC
- AG Buffer 15.8 AC
- Easement 6.8 AC
- Roadways 27.1 AC

Total Project Acreage 194 AC

Project FAR: .93

- Research/Manufacturing
- Ag Buffer w/Trails
- R&D/Office/Lab
- Multi-family Housing
- Townhomes
- Greenway
- Park
- Community Gathering/Retail
- Transit Plaza
- R&D/Office/Lab
- Hotel/Conference Facility
- Parking Garage
- Research/Adv. Manufacturing



Note: This drawing is for illustrative purposes only





PERSPECTIVE AERIAL OF SITE FROM ABOVE LOOKING NORTHEAST



RESEARCH & TECHNOLOGY



PROTOTYPING



Flexible Workspaces



TESTING FIELDS/FOOD SECURITY



Advanced Manufacturing



Mixed-use Apartments/Lofts



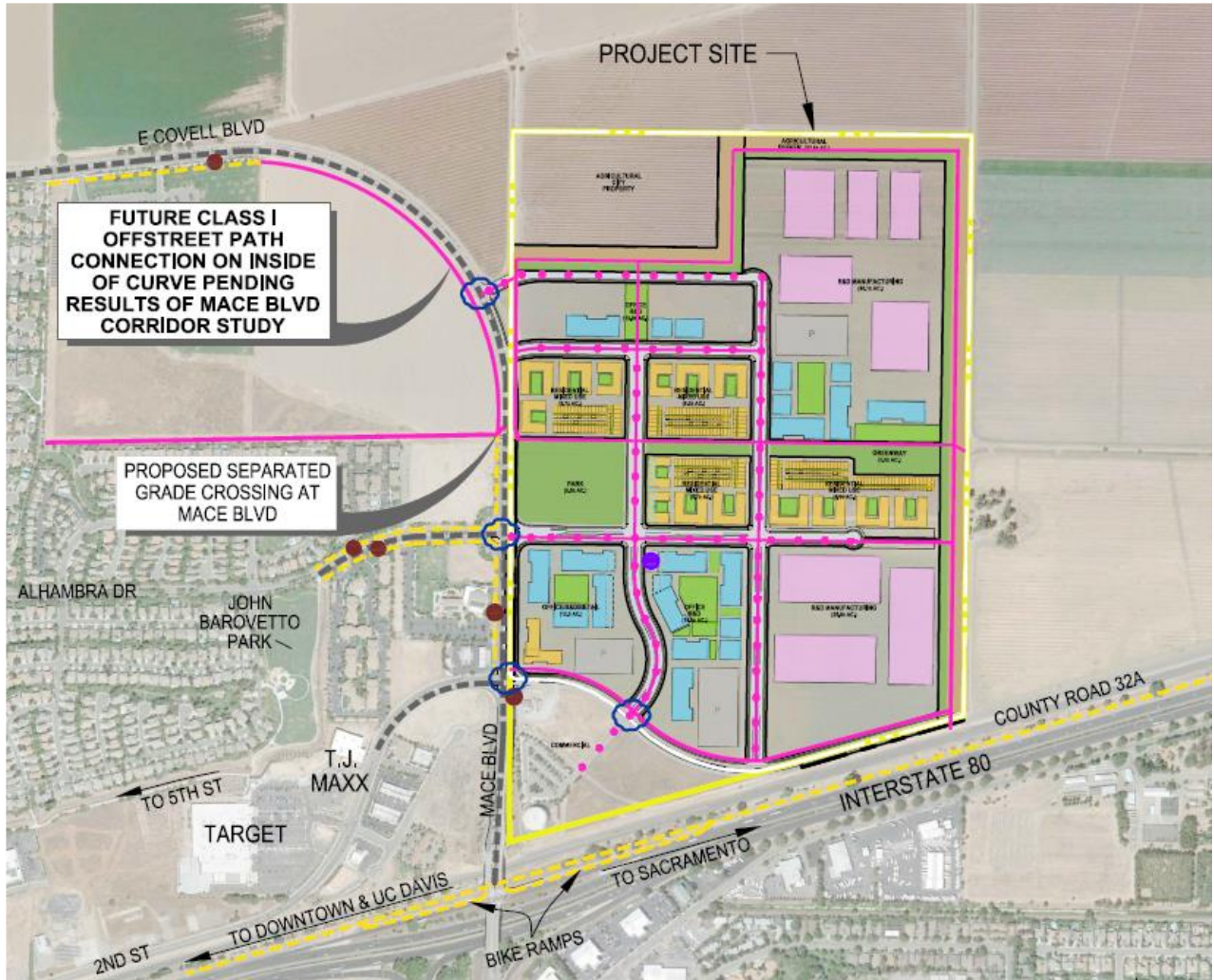
Residential/Maker Spaces



TRANSIT CENTER AND PLAZA

ARC SITE CONTEXT PLAN





AGGIE RESEARCH CAMPUS

Transportation Demand Management Plan

Let's Discuss:

Presented by Gordon Shaw
LSC Transportation Consultants, Inc.

- ✓ Existing Non-Auto Access to ARC
- ✓ Recommended TDM Strategies



Existing Transit

- **UNITRANS:**

- 82 arrivals to ARC (and an equal number of departures) each weekday over 4 routes serving the site, from 6:30 AM to 10:00 PM, providing service within 30 min. to all of Davis (Lines A, P, Q, Z)

- **Yolobus:**

- 40 arrivals from Woodland (an increasingly important location of relatively affordable housing) and from Sacramento/West Sacramento (Routes 42A, 42B) each weekday, with an additional 6 trips West Sacramento/Sacramento (Route 44, 232). Service from 6:30 AM to 10:30 PM.

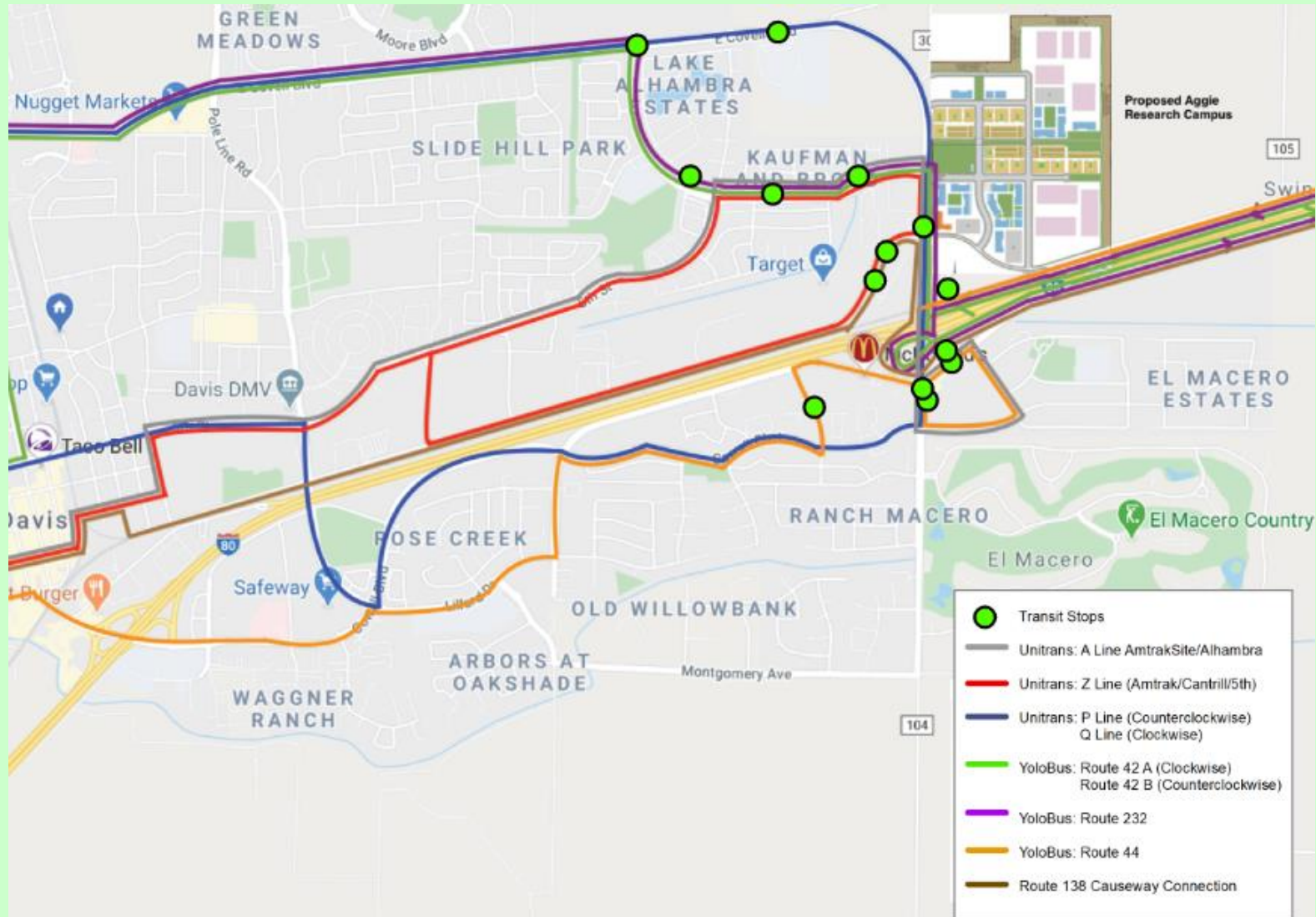
- **Route 138 (Causeway Connection):**

- 3 new daily arrivals and departures will reduce travel times to downtown and mid-town Sacramento to roughly a half-hour.

- **Capital Corridor:**

- 11 trains per day that provide regional access from the Bay Area and Sacramento Region.
- UNITRANS provides 52 daily trips from the Amtrak train station to the ARC site (typically a 20 min. trip), from roughly 7:00 AM to 10:00 PM and up to 4 trips per hour per direction.

Routes and Transit Stops



Transit Travel Times

15-Minute Travel Time

- Davis Neighborhoods of Wildhorse, Green Meadows, Covell Farms, Slide Hill Park, Lake Alhambra, Kaufman and Broad, Mace Ranch, Rancho Yolo, Ranch Macero, Willowcreek and El Macero Estates.

30-Minute Travel Time

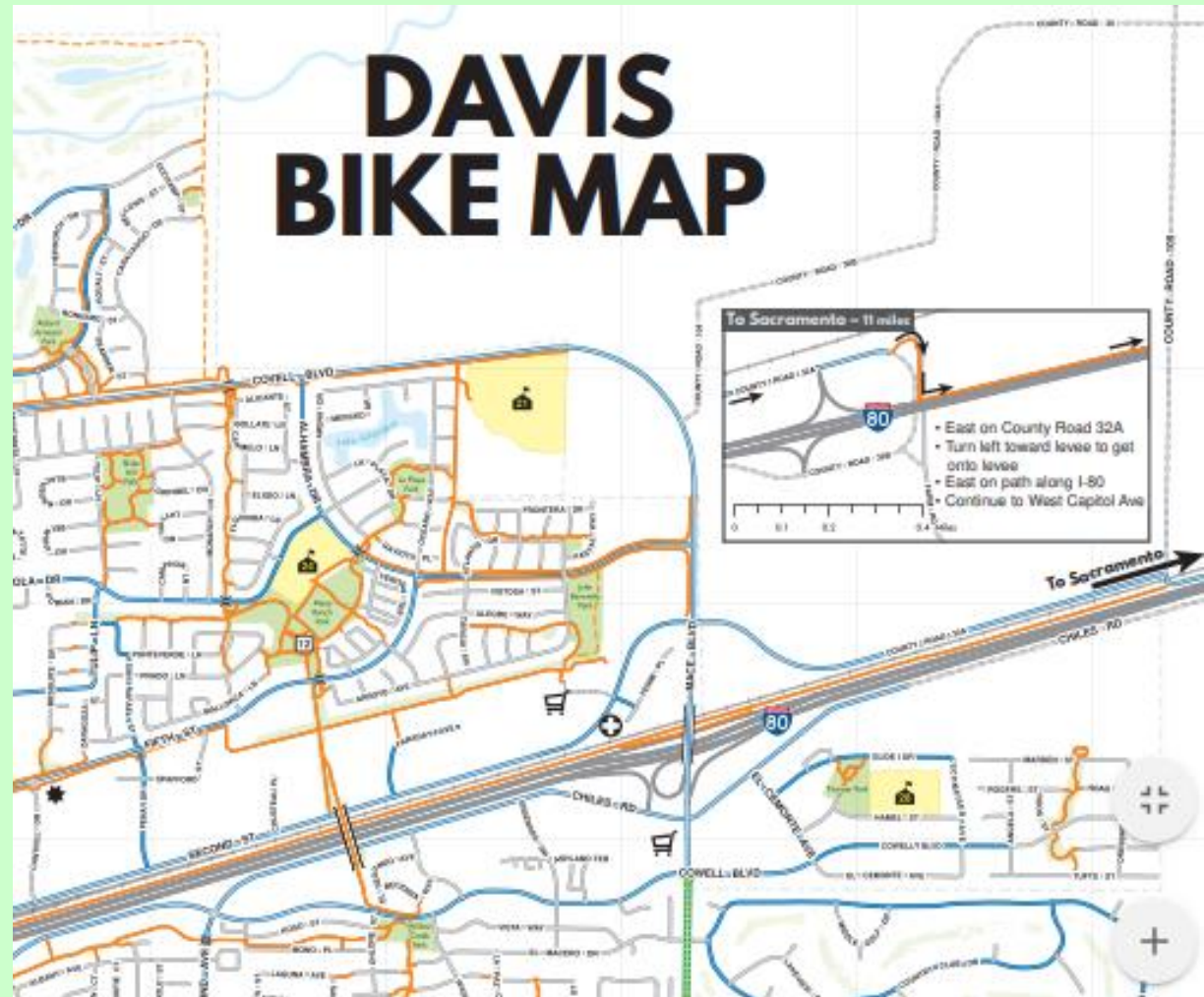
- Davis Neighborhoods of Rose Creek, Willowbank, South Cape, Wagner Ranch, Arbors at Oakshade, Arrowhead, Covell Park, Central Davis, Evergreen Meadows, Aspen, Stonegate and UC Davis.
- West Sacramento

60-Minute Travel Time

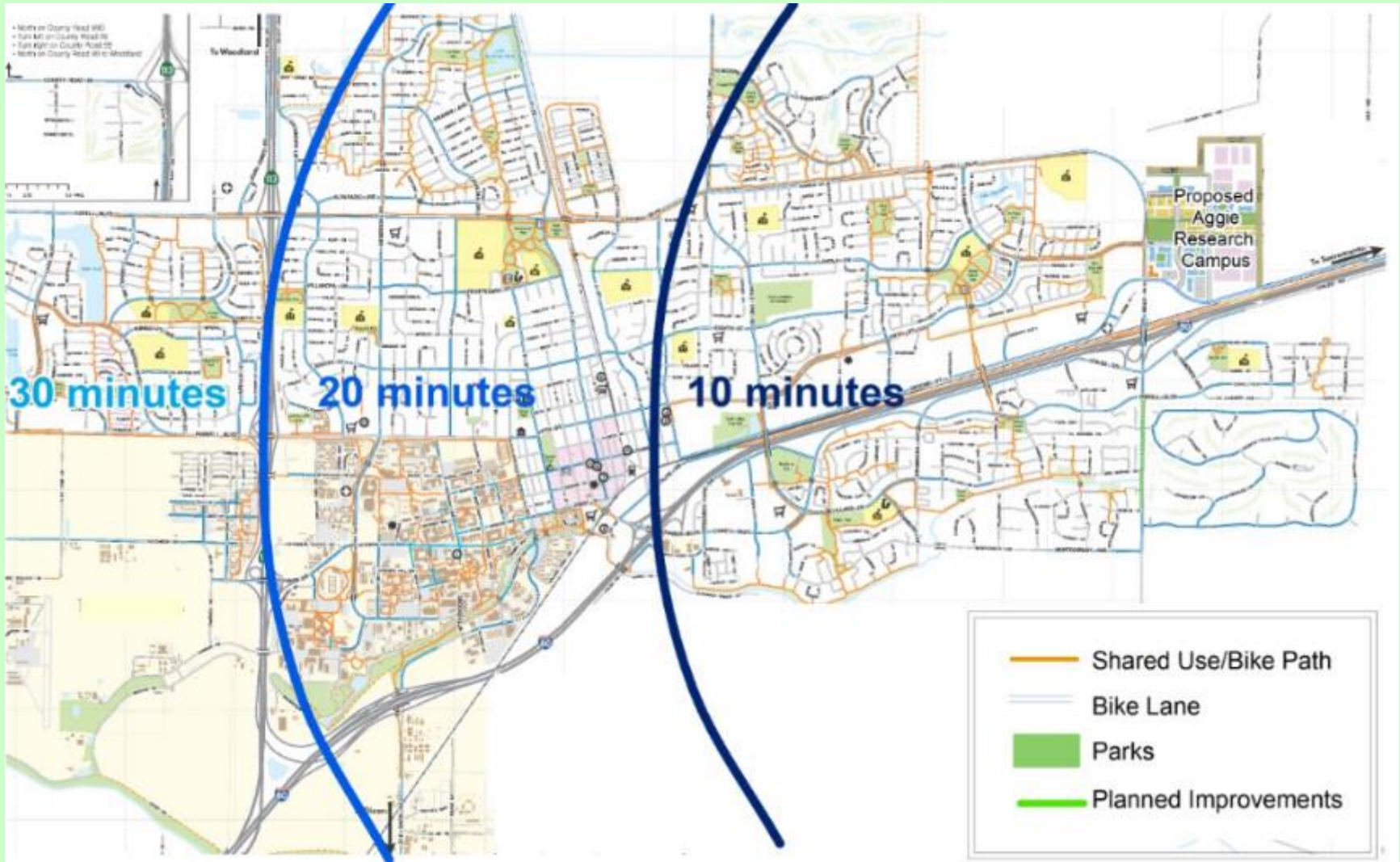
- One may take a 20 min. bus ride to and from the Amtrak Capitol Corridor station in Davis, followed by a 33 min train ride to and from the Sacramento Valley station for a total of 53-55 minutes.
- 42 A/B provides 45 min. service between Mace Boulevard and downtown Sacramento.

Existing Bike and Pedestrian Access

- Two protected shared bicycle and pedestrian paths
- Six major bicycle lanes serving the project site.
- JUMP bicycle share charging station within $\frac{1}{4}$ mile



Bicycle Travel Shed



ARC Transit Demand

ARC will generate:

- 132,000 residential transit passenger-trips per year.
- 860 new transit employee boardings per weekday, or 105,000 transit passenger-trips per year.
- Total of 237,000 transit boardings over the course of a year.

Transportation Demand Management

1. Transit Incentives and Improvements

Action 1.1: Improve Existing Bus Stop Infrastructure

Action 1.2: Provide Transit Subsidies

Action 1.3: Improve Amtrak Station Connections

Action 1.4: ARC Transportation Coordinator

2. Bicycle, Pedestrian and Micromobility Infrastructure Improvements

Action 2.1: Encourage Bicycle Share Programs

Action 2.2: Provide Micromobility Infrastructure throughout ARC

Action 2.3: Bicycle/Pedestrian Connection Enhancements

Action 2.4: Bicycle Repair Facilities

Action 2.5: End-of-Trip Bicycle Support Facilities

Action 2.6: Bicycle Storage Rooms

3. Parking Pricing and Supply Management

Action 3.1: Rent or Lease Parking Spaces Separately from Multifamily Residential Units

Thank you!

For further information, contact:

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