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

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office/R&amp;D</td>
<td>1,510,000 sf</td>
</tr>
<tr>
<td>Advanced Manufacturing</td>
<td>884,000 sf</td>
</tr>
<tr>
<td>Hotel/Conference</td>
<td>160,000 sf</td>
</tr>
<tr>
<td>Ancillary Retail</td>
<td>100,000</td>
</tr>
<tr>
<td><strong>Commercial Total</strong></td>
<td><strong>2,654,000 sf</strong></td>
</tr>
<tr>
<td>Single-Family Residential</td>
<td>280 dwelling units</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>570 dwelling units</td>
</tr>
<tr>
<td><strong>Residential Total</strong></td>
<td><strong>850 dwelling units</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time Period</th>
<th>External Vehicle Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>24,650</td>
</tr>
<tr>
<td>AM Peak Hour</td>
<td>2,325</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td>2,561</td>
</tr>
</tbody>
</table>

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**Fehr Peers**
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 – 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

Study Intersection Impact
ROADWAY OPERATIONS
ROADWAY CAPACITY & OPERATIONAL IMPROVEMENT MITIGATIONS

Recommendation #1
Widen southbound Mace Boulevard.

Recommendation #2
Widen northbound Mace Boulevard.

Recommendation #3
Implement intersection and signal modifications at the Chiles Road intersections at the EB I-80 off-ramp and Mace Boulevard.

Recommendation #4
Convert the I-80 EB loop on-ramp to two metered general purpose lanes.

Recommendation #5
Implement intersection and signal modifications at the Mace Boulevard/Second Street/CR 32A intersection.

Recommendation #6
Implement intersection and signal modifications at the Mace Boulevard/Alhambra Drive/South ARC Driveway intersection.

Recommendation #7
Signalize the Mace Boulevard/CR 30B/North ARC Driveway intersection.

Recommendation #8
Signalize the CR 32A/Mace park-and-ride/West ARC Driveway intersection.

Recommendation #9
Improve the UPRR at-grade rail crossing.

Recommendation #10
Construct capacity improvements at the I-80/CR 32A/Chiles Road interchange.
### ROADWAY OPERATIONS
#### EXISTING PLUS PROJECT CONDITIONS

<table>
<thead>
<tr>
<th>Impact</th>
<th><strong>Significant.</strong> 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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation Measure(s)</td>
<td><strong>Roadway Capacity and Operational Improvements</strong> 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.</td>
</tr>
<tr>
<td></td>
<td><strong>TDM Plan</strong> to reduce project-related vehicle trips on impacted roadways.</td>
</tr>
<tr>
<td>Significance after Mitigation</td>
<td><strong>Significant and unavoidable.</strong> The identified roadway improvements would lessen the effects of project-related traffic on roadway operations.</td>
</tr>
<tr>
<td></td>
<td>However, the improvements cannot be guaranteed due to implementation and funding uncertainties (e.g., Caltrans would need to approve potential interchange improvements).</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Impact</th>
<th><strong>Significant.</strong> 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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation Measure(s)</td>
<td><strong>Roadway Capacity and Operational Improvements</strong> 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. <strong>TDM Plan</strong> to reduce project-related vehicle trips on impacted roadways.</td>
</tr>
<tr>
<td>Significance after Mitigation</td>
<td><strong>Significant and unavoidable.</strong> 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.</td>
</tr>
</tbody>
</table>
# BICYCLE & PEDESTRIAN FACILITIES

<table>
<thead>
<tr>
<th>Impact</th>
<th>Significance. The ARC Project would increase the potential for conflicts involving bicyclists and pedestrians at locations where bicyclists and pedestrians mix with vehicles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation Measure(s)</td>
<td><strong>Mace Boulevard Corridor Plan</strong> to identify multimodal safety and operational improvements on Mace Boulevard. <strong>Bicycle and Pedestrian Facility Improvements</strong> 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).</td>
</tr>
<tr>
<td>Significance after Mitigation</td>
<td><strong>Significant and unavoidable.</strong> 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.</td>
</tr>
</tbody>
</table>
## TRANSIT SERVICE & FACILITIES

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure(s)</th>
<th>Significance after Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant. The ARC Project would increase delays and diminish on-time performance for Unitrans and Yolobus service operating near the project site.</td>
<td><strong>Mace Boulevard Corridor Plan</strong> to identify multimodal safety and operational improvements on Mace Boulevard. <strong>Roadway Capacity and Operational Improvements</strong> on Mace Boulevard to reduce delay experienced by transit service. <strong>Mace Boulevard Bus Stop Enhancements</strong> to improve transit access to/from the project site.</td>
<td>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.</td>
</tr>
</tbody>
</table>
## VEHICLE MILES TRAVELED

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Significant.</strong> VMT per service population generated by the ARC Project would exceed applicable thresholds relative to local and regional levels.</td>
<td><strong>TDM Plan</strong> to reduce project-generated VMT per service population in accordance with applicable VMT thresholds and City average vehicle ridership (AVR) targets.</td>
</tr>
<tr>
<td><strong>Significant and unavoidable.</strong> The TDM Plan would include strategies to reduce vehicle travel demand and, in turn, VMT per service population associated with the ARC Project.</td>
<td></td>
</tr>
<tr>
<td>However, the effectiveness of TDM strategies is uncertain and their ability to meet applicable VMT per service population thresholds cannot be guaranteed.</td>
<td></td>
</tr>
</tbody>
</table>
QUESTIONS FOR STAFF?
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
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 dw/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
Note: This drawing is for illustrative purposes only.
RESEARCH & TECHNOLOGY

GOOGLE ‘X’ LABS

TESLA MOTORS

PROTOTYPING
Flexible Workspaces
TESTING FIELDS/FOOD SECURITY
Advanced Manufacturing
Mixed-use Apartments/Lofts
Residential/Maker Spaces
AGGIE RESEARCH CAMPUS

Transportation Demand Management Plan

Let’s Discuss:

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

Presented by Gordon Shaw
LSC Transportation Consultants, Inc.
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 ¼ 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:
Gordon Shaw
Email: gordonshaw@lsctahoe.com
Phone: 530-583-4053