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SANDAG
BOARD OF DIRECTORS
AGENDA
Friday, July 14, 2017
10 a.m. to 12 noon
SANDAG Board Room
401 B Street, 7th Floor
San Diego

AGENDA HIGHLIGHTS

• SAN DIEGO REGIONAL AUTONOMOUS VEHICLE PROVING GROUND

PLEASE SILENCE ALL ELECTRONIC DEVICES DURING THE MEETING

YOU CAN LISTEN TO THE BOARD OF DIRECTORS MEETING BY VISITING OUR WEBSITE AT SANDAG.ORG

MESSAGE FROM THE CLERK
In compliance with Government Code §54952.3, the Clerk hereby announces that the compensation for legislative body members attending the following simultaneous or serial meetings is: Executive Committee (EC) $100, Board of Directors (BOD) $150, and Regional Transportation Commission (RTC) $100. Compensation rates for the EC and BOD are set pursuant to the SANDAG Bylaws and the compensation rate for the RTC is set pursuant to state law.

MISSION STATEMENT
The 18 cities and county government are SANDAG serving as the forum for regional decision-making. SANDAG builds consensus, makes strategic plans, obtains and allocates resources, plans, engineers, and builds public transit, and provides information on a broad range of topics pertinent to the region's quality of life.

San Diego Association of Governments · 401 B Street, Suite 800, San Diego, CA 92101-4231
(619) 699-1900 · Fax (619) 699-1905 · sandag.org
Welcome to SANDAG. Members of the public may speak to the Board of Directors on any item at the time the Board is considering the item. Please complete a Speaker's Slip, which is located in the rear of the room, and then present the slip to the Clerk of the Board seated at the front table. Members of the public may address the Board on any issue under the agenda item entitled Public Comments/Communications/Member Comments. Public speakers are limited to three minutes or less per person. The Board of Directors may take action on any item appearing on the agenda.

Public comments regarding the agenda can be sent to SANDAG via comment@sandag.org. Please include the agenda item, your name, and your organization. Email comments should be received no later than 12 noon, two working days prior to the Board of Directors meeting. Any handouts, presentations, or other materials from the public intended for distribution at the Board of Directors meeting should be received by the Clerk of the Board no later than 12 noon, two working days prior to the meeting.

In order to keep the public informed in an efficient manner and facilitate public participation, SANDAG also provides access to all agenda and meeting materials online at www.sandag.org/meetings. Additionally, interested persons can sign up for e-notifications via our e-distribution list at either the SANDAG website or by sending an email request to webmaster@sandag.org.

SANDAG operates its programs without regard to race, color, and national origin in compliance with Title VI of the Civil Rights Act. SANDAG has developed procedures for investigating and tracking Title VI complaints and the procedures for filing a complaint are available to the public upon request. Questions concerning SANDAG nondiscrimination obligations or complaint procedures should be directed to SANDAG General Counsel, John Kirk, at (619) 699-1997 or john.kirk@sandag.org. Any person who believes himself or herself or any specific class of persons to be subjected to discrimination prohibited by Title VI also may file a written complaint with the Federal Transit Administration.

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# BOARD OF DIRECTORS  
**Friday, July 14, 2017**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS</th>
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<tbody>
<tr>
<td>1.</td>
<td>Public comments under this agenda item will be limited to five public speakers. Members of the public shall have the opportunity to address the Board on any issue within the jurisdiction of SANDAG that is not on this agenda. Other public comments will be heard during the items under the heading “Reports.” Anyone desiring to speak shall reserve time by completing a “Request to Speak” form and giving it to the Clerk of the Board prior to speaking. Public speakers should notify the Clerk of the Board if they have a handout for distribution to Board members. Public speakers are limited to three minutes or less per person. Board members also may provide information and announcements under this agenda item.</td>
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## REPORTS

### +2 SAN DIEGO REGIONAL AUTONOMOUS VEHICLE PROVING GROUND
(Paul Brubaker, ATI21; Jason Ellis, QUALCOMM; Antoinette Meier)

ATI21, QUALCOMM, and SANDAG staff will provide an overview of the Autonomous Vehicle Proving Ground (AVPG) project. The U.S. Department of Transportation designated the San Diego region as one of ten AVPGs across the nation.

### +3 CLOSED SESSION: CONFERENCE WITH REAL PROPERTY NEGOTIATORS PURSUANT TO GOVERNMENT CODE SECTION 54956.8
(Chip Willett, Bender Rosenthal; Brad Kuhn, Nossaman; John Haggerty, Ryan Kohut)

The Board of Directors will be briefed by the SANDAG real property negotiation team on the status of negotiations with 8650 Villa La Jolla Inc. regarding the price and terms to acquire real property at 8650 Villa La Jolla Drive, San Diego, California (Assessor Parcel Nos. 344-280-08, 344-280-19, and 344-280-20), for use by SANDAG to construct the Mid-Coast Corridor Transit Project.

### +4 CLOSED SESSION: CONFERENCE WITH REAL PROPERTY NEGOTIATORS PURSUANT TO GOVERNMENT CODE SECTION 54956.8
(Chip Willett, Bender Rosenthal; Bruce Beach, Best Best & Krieger; John Haggerty, Ryan Kohut)

The Board of Directors will be briefed by the SANDAG real property negotiation team on the status of negotiations with La Jolla Business Center, LLC regarding the price and terms of a potential settlement to acquire real property at 5111 to 5191 Santa Fe Street, San Diego, California (Assessor Parcel Nos. 676-010-01, 359-010-33, and 359-010-34), for use by SANDAG to construct the Elvira to Morena Double Track Project and the Mid-Coast Corridor Transit Project.
5. CONTINUED PUBLIC COMMENTS

If the five-speaker limit for public comments was exceeded at the beginning of this agenda, other public comments will be taken at this time. Subjects of previous agenda items may not again be addressed under public comment.

6. UPCOMING MEETINGS

The next Board Business meeting is scheduled for Friday, July 28, 2017, at 9 a.m.

7. ADJOURNMENT

+ next to an agenda item indicates an attachment
SAN DIEGO REGIONAL AUTONOMOUS VEHICLE PROVING GROUND

Introduction

In January 2017, the U.S. Department of Transportation (U.S. DOT) designated the San Diego region as one of ten Autonomous Vehicle Proving Grounds (AVPG) across the nation. The San Diego Regional AVPG is a partnership of Caltrans, the City of Chula Vista, and SANDAG, with SANDAG as the lead agency. The San Diego Regional AVPG provides real world test environments useful for validating innovative technologies that have the potential to advance mobility, safety, and economic development.

The U.S. DOT designation has begun to catalyze elements within the network of autonomous vehicle manufacturers, their suppliers, supporting technology developers, and research institutions. As such, a number of entities have indicated interest in affiliating with the San Diego Regional AVPG.

Discussion

Overview of the AVPG Designation

The U.S. DOT recognized that the pace at which automated vehicle technologies are being developed, tested, and refined is quickening, but the pace could be further accelerated through the safe testing of vehicles in real world environments. In January 2017, the U.S. DOT designated ten AVPGs, of which SANDAG and its partners were selected from among 60 applicants across the nation. The San Diego Regional AVPG provides three distinct facilities: the Interstate 15 Express Lanes; the southern segment of the State Route 125 South Bay Expressway; and the local streets and roads within the City of Chula Vista (Attachment 1).

U.S. DOT Objectives and Requirements

U.S. DOT’s objective for the AVPG program is to encourage new levels of public safety while contributing to a strong innovative foundation able to transform personal and commercial mobility, and open new doors to disadvantaged people and communities. The designated proving grounds are expected to collectively form a “Community of Practice” around testing and deployment, and openly share best practices for testing and operations as they are developed, enabling the participants and the public to learn at a faster rate and accelerating the pace of safe deployment.
**Vision and Purpose**

The vision for the San Diego Regional AVPG is to provide a real world proving ground environment for validating innovative technologies that advance mobility, safety, sustainability, and economic prosperity for the San Diego region. It is expected that the San Diego Regional AVPG will inform public policy and long-range planning that guides deployment of connected and autonomous vehicles in support of the region's goals for mobility, sustainability, economic prosperity, and safety.

**Work Program and Progress**

SANDAG, Caltrans, and the City of Chula Vista developed a work program to establish the proving grounds by January 2018. Key deliverables include industry outreach and affiliate development; operating strategy and engagement model; ongoing federal and state agency coordination (U.S. DOT, Department of Motor Vehicles, California Highway Patrol, and Caltrans); agreements with U.S. DOT and San Diego Regional AVPG partners; communications strategy and public outreach plan; and risk assessment and safety management plans.

Progress to date includes developing project communications materials; identification of Designated Safety Officers for each of the facilities; industry and academic outreach and interviews; coordination with U.S. DOT, the AVPG Community of Practice, and the California State Transportation Agency; and establishing a partnership with QUALCOMM to begin testing connected vehicle technologies. Additionally, building upon its Smart Cities initiatives, the City of Chula Vista has adopted a City Council Resolution (Attachment 2) supporting autonomous vehicle research and the development of proving grounds on city streets, roads, and facilities.

**Industry Outreach and Affiliate Development**

SANDAG conducted industry outreach to gauge potential affiliates' level of interest in the San Diego Regional AVPG and to better understand their needs for testing connected and autonomous vehicle technology. A total of 40 organizations were interviewed, representing technology, wireless, automobile manufacturers and their suppliers, and local universities. The following is a summary of the feedback received.

- **Real World Environment and Existing Infrastructure:** Testing and validating in real-world conditions is attractive for companies, especially for those that are beyond testing in closed test tracks and are preparing for commercial release of their products. These companies need a variety of complex facilities, which the San Diego Regional AVPG provides.

- **Location:** High-tech companies with a presence in southern California are most likely to participate. Not only is it desirable to have a proving ground nearby their facilities, but companies located in the region shared a sense of community pride and see the proving grounds as an economic development opportunity for the region.

- **Local Government and Universities:** The opportunity to partner with local government and universities was described as a benefit, and companies indicated that SANDAG, Caltrans, and the City of Chula Vista are known as innovators in planning and project implementation. Another advantage of working with government and academia is that they are a neutral third party. Further, auto manufacturers expressed interested in partnering with government and academia to advance public education through showcase projects that solve real problems.
• **Strategic Partnerships:** The San Diego Regional AVPG provides a platform for industry partnerships. It was suggested that collaboration across industries involved in connected and automated vehicle technologies has been limited, and that the San Diego Regional AVPG could provide a forum that facilitates strategic partnerships among affiliates.

While companies demonstrated interest in the San Diego Regional AVPG, the research identified specific strategies that will be vital to our success. This includes an expeditious and clear process for traffic control and encroachment permitting, a realistic plan for handling and sharing data, and access to a 5G wireless environment.

QUALCOMM was an early supporter of the San Diego Regional AVPG application to U.S. DOT. QUALCOMM’s interest and participation in the proving ground is a key differentiator that potentially will attract additional affiliates. QUALCOMM currently is working with SANDAG, Caltrans, and the City of Chula Vista to conduct testing of connected and autonomous vehicle technologies. QUALCOMM’s first phase of testing will focus on connected vehicle communications systems and will start as early as August 2017. Future phases of testing will occur after the formal launch of the San Diego Regional AVPG and will incorporate Advanced Driver Assistance Systems and 5G.

**Next Steps**

Staff will continue to make progress on the AVPG work program and anticipates returning to the Board of Directors this fall to provide a status report.

GARY L. GALLEGOS  
Executive Director

Attachments: 1. Map of the San Diego Regional Autonomous Vehicle Proving Ground Facilities  
2. Chula Vista City Council Resolution 2017-102

Key Staff Contact: Antoinette Meier, (619) 699-7381, antoinette.meier@sandag.org
Staging Facility – North:
Includes:
- Office space
- Secure parking
- Enclosed garage space

Staging Facility – Southeast:
Includes:
- Office space
- Secure parking
- Enclosed garage space
- 24-Hour surveillance

Staging Facility – Southwest:
Includes:
- Office space
- Secure parking
- Auto workshop
- Vehicle staging area

San Diego Regional Autonomous Vehicle Proving Ground

I-15 Express Lanes
South Bay Expressway
City of Chula Vista

Staging Facilities
1. Staging Facility – North
2. Staging Facility – Southeast
3. Staging Facility – Southwest

Map Area
San Diego Region

MILES
KILOMETERS

National City
Coronado
Del Mar
Encinitas
Carlsbad
Oceanside
San Diego
La Mesa
El Cajon
Poway
Poway
San Marcos
Vista
San Pasqual Reservation
Pala Reservation
Pauma and Rincon Reservations
La Jolla Reservation
San Pasqual Reservation
Santa Ysabel Reservation
Barona Reservation
Mesa Grande Reservation
Rincon Reservation
Pala Reservation
San Diego Region Map Area
Pauma and Yuima Reservation
San Diego Region Map Area

UNITED STATES
MEXICO

Camp Pendleton
San Diego Lemon Grove
City of Chula Vista
Staging Facility – North:
Includes:
- Office space
- Secure parking
- Enclosed garage space

Staging Facility – Southeast:
Includes:
- Office space
- Secure parking
- Enclosed garage space
- 24-Hour surveillance

Staging Facility – Southwest:
Includes:
- Office space
- Secure parking
- Auto workshop
- Vehicle staging area

1
2
3
RESOLUTION NO. 2017-102

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CHULA VISTA DECLARING THE CITY’S SUPPORT FOR THE RESEARCH AND DEVELOPMENT OF AN AUTONOMOUS VEHICLE PROVING GROUND IN THE CITY OF CHULA VISTA

WHEREAS, on January 19, 2017, the United States Department of Transportation (USDOT) designated ten pilot sites as approved proving grounds to encourage the testing of Autonomous Vehicle (AV) technologies; and

WHEREAS, the City of Chula Vista, in partnership with the San Diego Associations of Governments (SANDAG) and the California Department of Transportation (CALTRANS), was selected as one of the ten approved AV proving grounds in the nation; and

WHEREAS, the City of Chula Vista received approval by the USDOT for testing on its streets, roads, and other facilities; and

WHEREAS, the California Department of Motor Vehicles (DMV) has proposed the amendment and adoption of various sections in the Vehicle Code relating to AVs; and

WHEREAS, the full deployment of AVs on open public roads in the City of Chula Vista would not start until the DMV has adopted its regulations on AVs or other State and local approvals are granted for AV pilot testing purposes; and

WHEREAS, AVs will greatly reduce or eliminate traffic crashes caused by human error or distraction, as well as the potential to reduce congestion, greenhouse gas emissions, and offer enhanced mobility opportunities for the elderly and/or disabled.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Chula Vista, that it formally declares that the City of Chula Vista welcomes the research and development of an Autonomous Vehicle (AV) proving ground on the streets, roads, and facilities over which the City has jurisdiction in accordance with applicable laws.

Presented by

Approved as to form by

Richard A. Hopkins
Director of Public Works

Glen R. Geogins
City Attorney
Resolution No. 2017-102
Page No. 2

PASSED, APPROVED, and ADOPTED by the City Council of the City of Chula Vista, California, this 13th day of June 2017 by the following vote:

AYES: Councilmembers: Aguilar, Diaz, McCann, Padilla, and Salas
NAYS: Councilmembers: None
ABSENT: Councilmembers: None

Mary Salas, Mayor

ATTEST:

Donna R. Norris, CMC, City Clerk

STATE OF CALIFORNIA   
COUNTY OF SAN DIEGO   
CITY OF CHULA VISTA

I, Donna R. Norris, City Clerk of Chula Vista, California, do hereby certify that the foregoing Resolution No. 2017-102 was duly passed, approved, and adopted by the City Council at a regular meeting of the Chula Vista City Council held on the 13th day of June 2017.

Executed this 13th day of June 2017.

Donna R. Norris, CMC, City Clerk
San Diego Regional Autonomous Vehicle Proving Ground
SANDAG Board of Directors Meeting
July 14, 2017

U.S. DOT Objectives for Proving Grounds

- Accelerate safe deployment of AV technologies
  - Public safety, improved mobility, disadvantaged populations
  - Share best practices for safe testing and deployment
- Research and data sharing
- Public outreach and education
**Purpose**

- Facilitate testing and validation of connected and autonomous vehicle technologies while ensuring public safety and security

- Inform public policy and long-range planning that guides deployment in support of the region’s goals for mobility, sustainability, and economic prosperity
Overview of Work Program

- Stakeholder outreach and partnership development
- Needs assessment
- Operating strategy and engagement model
- U.S. DOT and community of practice coordination
- DMV coordination
  - Execute agreements (U.S. DOT/partners)
  - Communications and public outreach plan
  - Facilitate deployment of supporting technologies
  - Safety management plans
  - Facilities ready for testing in January 2018

Industry Outreach

- 40 companies interviewed
  - Wireless, technology, automotive, suppliers
Key Takeaways

• A real-world environment with varying facilities is attractive
• Technology companies in Southern California are most interested
• Access to universities is beneficial
• Companies want to help solve complex problems and inform public policy
• Companies see this as a business development opportunity
• Strategic partnerships among affiliates is important

Early Demonstration Opportunities

• Transit integration/mobility hubs
• Smart vehicle/smart roadway
  – Wireless charging
Strategies for Success

• Streamlined path for permitting
• Plan for handling and sharing data
• Business plan that includes a clear path toward commercialization
• 5G environment
• QUALCOMM participation

QUALCOMM Partnership

• Early supporter of application to U.S. DOT
• Founding San Diego regional AVPG partner
• Phased plan for testing:
  — Early phases: Connected vehicle communications with a focus on safety
  — Future phases: Advanced driver assistance systems and 5G
Questions?

• Antoinette Meier, SANDAG
• Paul Brubaker, ATI21
• Jason Ellis, QUALCOMM
About TuSimple

We build low-cost, commercial ready solutions of L4 autonomous trucks for highway transportation
TuSimple

Background

Headquarters in Beijing (founded 2015)

Research office in San Diego

Testing sedans in California

TuSimple

Advantages

World-class algorithm team

Pioneer in autonomous truck systems

Clear business strategies for commercialization
TuSimple’s Solution

Software

Computer vision + Deep learning

Hardware

Cameras/Radar + NVIDIA core

Trucking eco-system

Tier 1 Suppliers
Build components

Manufacturer Suppliers
Assemble trucks

TuSimple
Operates the autonomous fleet

Producers
Provide goods

TuSimple operates the autonomous fleet
TuSimple charges a fraction of driver costs saved
San Diego Network

Regional cooperation
Lobbying power
Establish San Diego’s autonomous community

Thanks!
谢谢