

COLLEGE OF  
**MARIN**

**Automotive Technology/Automotive Collision and Repair/Electronics**

**Advisory Meeting**

**May 11, 2023**

**5 – 6:30 p.m.**

Hosted:

Alina Varona, Dean of Career Education and Workforce Development, College of Marin (COM)  
Ron Palmer, Auto Instructor and Chair for Career Education, COM  
Heather Rahman, Program Coordinator, Career Education, COM

Attended:

Dan Silin, CTE Auto Instructor, Tamalpais High School  
Laura Bertolli, Auto Instructor, COM  
Coben Alexander, Representative, Snap-on Industrial  
Mark Barrall, ACRT and Electronics Instructor, COM  
John Callas, CTE Auto Instructor, Terra Linda High School  
Chelsey Perez, Internship and Service-Learning Coordinator, COM  
Brenda Solano, Senior Customer Success Manager, Transfr VR  
Kate Kimmer, Product Marketing Manager, Transfr VR  
Matt Ihsan, Owner, Fara's Auto  
Jesse Madsen, Director of College and Career Readiness, Marin County Office of Education  
Nick Fara, Auto Instructor, COM  
Brian Barnes, Service Director, Marin Acura  
Merrilee Averado, Employee Culture and Community Relations Director, Hansel Auto Group  
John Nirenstein, Owner, Phoenix Restorations  
Michael Azevedo, Service Manager, Hansel Auto Group  
Olivia Wright, Service Writer, British Car Repair  
Pamela Guman, Regional Director, Advanced Transportation & Logistics, BACCC  
Robin Lee, Owner, Robin's Auto Service  
Tanya Paredes, Administrative Assistant, Career Education, COM

|  | Notes  |
|--|--|
| <ul style="list-style-type: none"> <li>❖ Welcome and Introductions (10 minutes)               <ul style="list-style-type: none"> <li>- Alina Varona, Dean of Career Education and Workforce Development</li> </ul> </li> </ul>   | <p>Alina Varona initiated the meeting with a warm welcome. Everyone introduced themselves, and Alina proceeded to give an overview of Career Education and the Automotive and Auto Collision Repair Technology programs.</p> <p>See presentation slides for more information.</p>  |
| <ul style="list-style-type: none"> <li>❖ Overview of COM, Career Education and Automotive Programs (10 minutes) - Alina Varona</li> </ul>  | <p>Highlights:</p> <ul style="list-style-type: none"> <li>-2020-2021 dip in enrollment because of pandemic. Classes were adjustment to virtual/virtual reality teaching</li> <li>-Many programs exceed 70% completion goal.</li> </ul>   |
| <ul style="list-style-type: none"> <li>❖ Check-in with Advisory members (15 - 20 minutes)               <ul style="list-style-type: none"> <li>○ Technology discussion</li> <li>○ General hiring/retention needs</li> <li>○ General local industry climate for new employees</li> <li>○ Skills (technical and soft) to prepare students</li> </ul> </li> </ul> | <p>Committee discussions included:</p> <ul style="list-style-type: none"> <li>- Laura Bertolli led a virtual incarcerated women’s reentry automotive class that was successful. TransfrVR is willing to partner with COM to create more of these types of reentry programs for incarcerated and justice impacted youth and adults.</li> <li>- There is a motorsports resurgence in CA and an active community at Sonoma raceway of 50-70 shops. Students coming from machine metals, welding, as well as auto and ACRT classes could find work there.</li> <li>-The committee discussed the need for more people trained in EV. The EV industry is losing employees in the private sector to municipalities. Private businesses must offer competitive pay for those who have training since someone without training can start at the same entry level wage. Snap On is releasing EV type training. The EV program at COM is 2 years long and doesn’t have as much interest from students at this time. Many students take classes just enough to get a job but not necessarily training for 5+ years out. Starting EV training at the high school level can help.</li> </ul> |

|  |   |
|--|---|
|  | <p>- Committee members expressed an interest in presenting to students in auto classes and mock interviews. Chelsey Perez has developed a new mock interview program with ESCOM and would like to connect with committee members to set up auto-related interviews. Employers can post positions on the website Handshake.</p> <p><b>ACTION:</b> Anyone on the advisory committee interested in presenting to COM classes can contact Ron Palmer about scheduling a classroom visit next year.</p> <p>- Committee members shared their experiences of touring the COM auto department as high school students and encouraged more tours and open houses to be offered. High school career days used to be held at COM. Jesse Madsen said that they would be happy to partner on a field trip. COM will be reaching out to high schools that do not offer auto classes to set up concurrent enrollment.</p> <p>-Brian Barnes of Marin Acura asked to be included in any options to speak about the industry to potential and current students, possible internships and any open house style recruitment events.</p> <p><b>-ACTION:</b> If advisory members send a job posting, COM auto faculty will put the flyer up in the shops. Also send Laura an email and she will mention any jobs available to students.</p> |
| <p>❖ Labor Market Information (a few minutes) - Heather Rahman, Program Coordinator, Career Ed.</p>        | <p>Feedback from the committee included:</p> <p>-The committee shared that starting wages have been rising significantly to be competitive.</p> <p>Please refer to the meeting presentation slides for the data reported.</p>   |
| <p>❖ Review and Open Discussion of Programs (15-30 minutes) - Ron Palmer and Mark Barrall, Instructors</p> | <p>Instructors reported on updates and developments regarding the Automotive, Electric and ACRT programs:</p> <p>- Ron explained that the instructors would like to update or replace AC equipment which will</p>   |

|                           |  |
|---------------------------|--|
|                           | <p>capture refrigerant and keep it from expelling into the atmosphere.</p> <p>- COM has been working on developing virtual reality (VR) auto class instruction since the pandemic and was the only school to remain open for auto and ACRT classes during the pandemic. VR allows less skilled students to practice before going into a shop. Brenda added that Penske Motor Group is working to train and upskill existing employees using VR as it prevents safety issues and doesn't take more experienced employees away from their work to train others. Laura is teaching Auto 111, ACRT 110 and 108 with VR. The classes are popular and offer flexibility. VR goggles are checked out to students for online classes. VR online classes would be a good option for concurrently enrolled high school students as well.</p> <p>-Nick explained that the courses have been popular and successful with online lectures.</p> <p>-The committee gave their input on adding a motorsports certificate to the COM curriculum. It's a good way to get people interested in the auto industry and there's no other training programs offered on the west coast. It would be helpful to line up employers or organizations to offer internships and add a name to the program as there are not many entry-level positions in the racing circuit. The committee responded favorably to adding the certificate.</p> |
| ❖ Conclusions (5 minutes) | Please refer to the meeting presentation slides for more information.  |

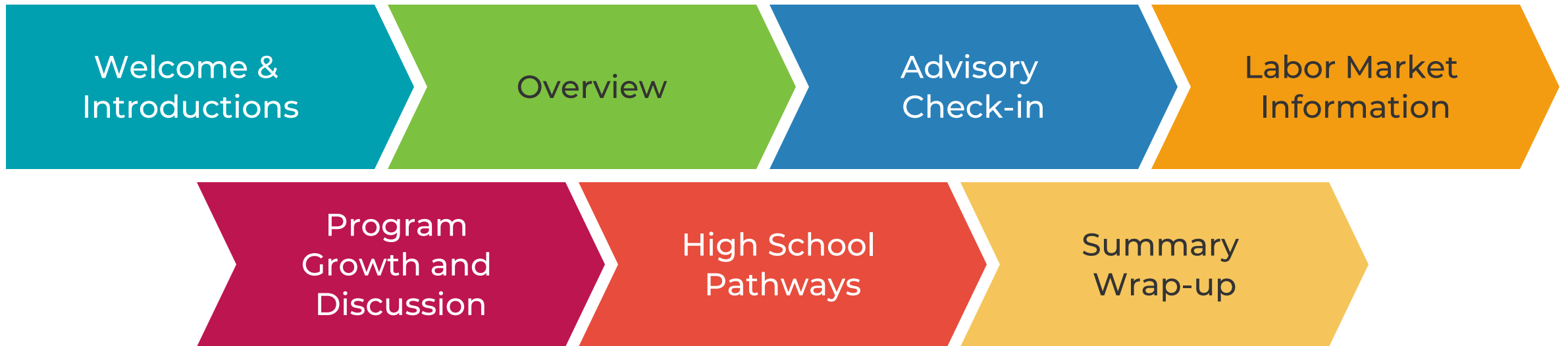




# Automotive Technology Auto Collision Repair Technology

Advisory Committee Meeting  
Thursday, May 11, 2023

# AGENDA





# Welcome!

and

# Introductions

We'd like to learn a little about you...

Please share your name, organization, and what brings you to the room today.



# Overview

**Alina Varona**

Dean of Career Education and Workforce  
Development

COLLEGE OF MARIN

CAREER EDUCATION

AUTOMOTIVE PROGRAMS

# Overview of Career Education and Workforce Development

Prepare students with skills for 21st century jobs, careers, and the future of work

## Degrees and Certificates

- **Create Pathways & Support Momentum**

## Short Term Training and Workforce Development

- **Respond In-Time to Labor Market Needs and Connect to Employment**

## Non Credit Education

- **Ladder and Bridge to Basic Skills, Work, and Credit**

**2.1 million** students at **116** colleges

[HTTPS://WWW.CCCCO.EDU/ABOUT-US/CHANCELLORS-OFFICE/DIVISIONS/WORKFORCE-AND-ECONOMIC-DEVELOPMENT](https://www.cccco.edu/about-us/chancellors-office/divisions/workforce-and-economic-development)

# Career Education: Programs

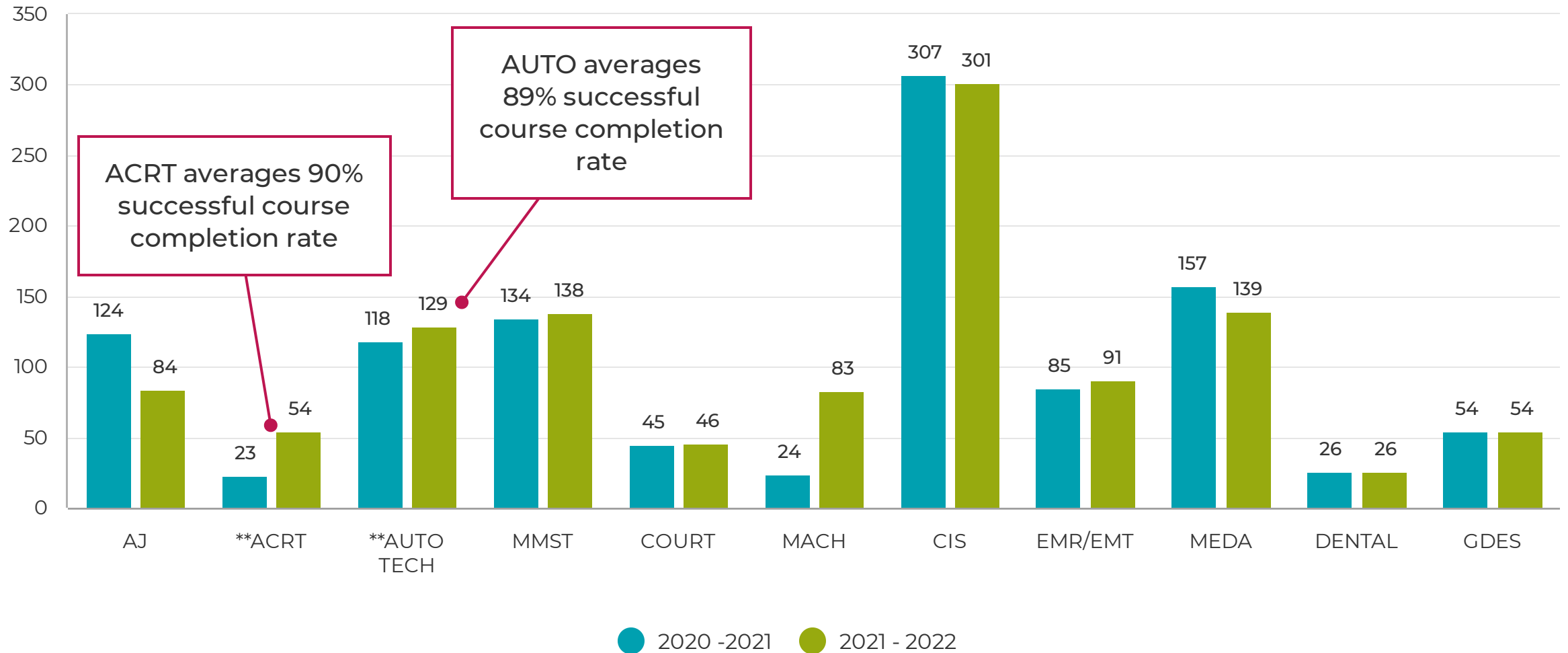
[cte.marin.edu](http://cte.marin.edu)



- Administration of Justice
- Auto & Industrial
  - **Auto Collision Repair; Auto Technology; Electronics;** Machine & Metals
- Computers & Multimedia
  - Computer Information Systems; Graphic Design; 3D, Video, Game Dev; Web Design and Development; MS Office Specialist Certification
- Court Reporting
- Health Sciences
  - Dental Assisting; Emergency Medical Technician Training; Medical Assisting, Public Safety Degree; FIRE Foundry Program; CNA/CHHA
- Organic Farming
- Education to Career (E2C)
  - Construction Program
  - CNA/CHHA - coming soon
  - Bus Coach Operator Apprenticeship - coming soon
- Summer Career Academies
  - High School Academies
- Short-Term Career Training Programs (12 Weeks)
  - Business Start-Up: online selling, accounting, office applications, social media marketing

# Enrollments by Program

Unduplicated headcount by program across 2 academic years



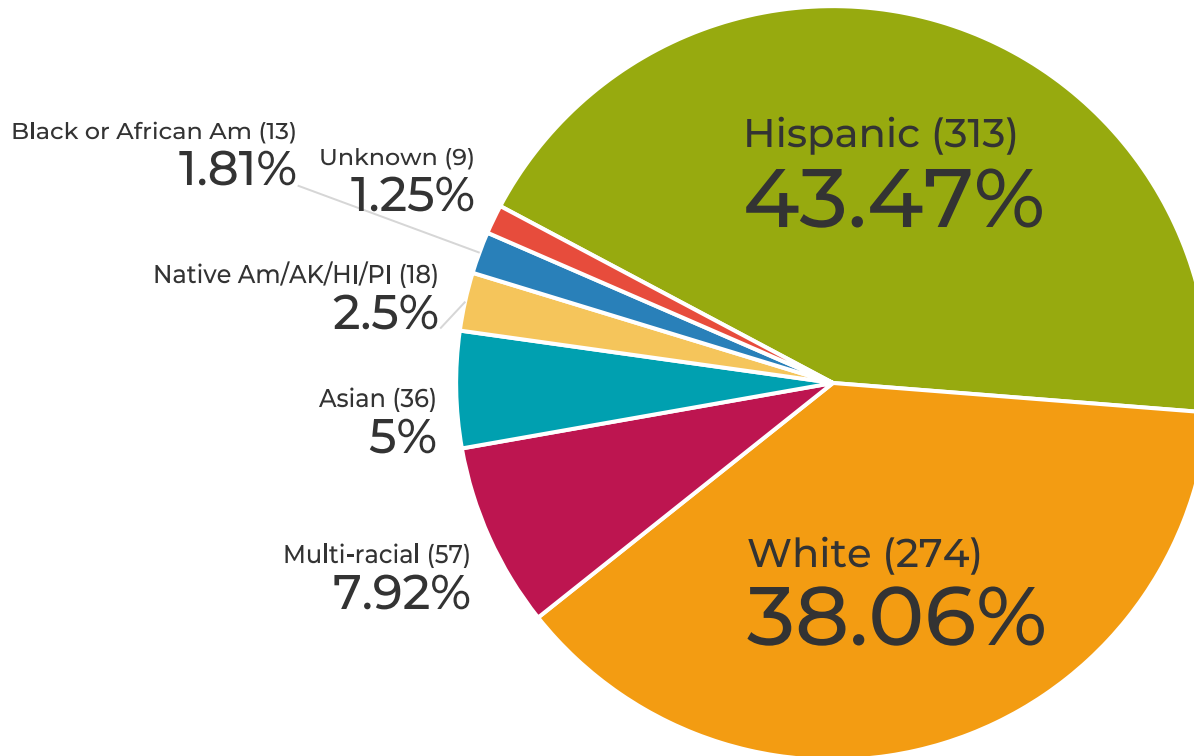


# Average Student Demographics

## Automotive Technology (AT)

2019 - 2022

11% Female  
88% Male  
1% Unknown



### COLLEGE OF MARIN CREDIT STUDENT CHARACTERISTICS

Gender: Male 39% Female 60%;

Median Age: 23

Race/Ethnicity:

Asian: 487 (7%)

Black/African American: 207 (3%)

Hispanic: 1,985 (30%)

Multi-racial: 408 (6%)

Native American: 14 (0.2%)

Native Hawaiian/Pacific Islander: 13 (0.2%)

White: 3,211 (48%)

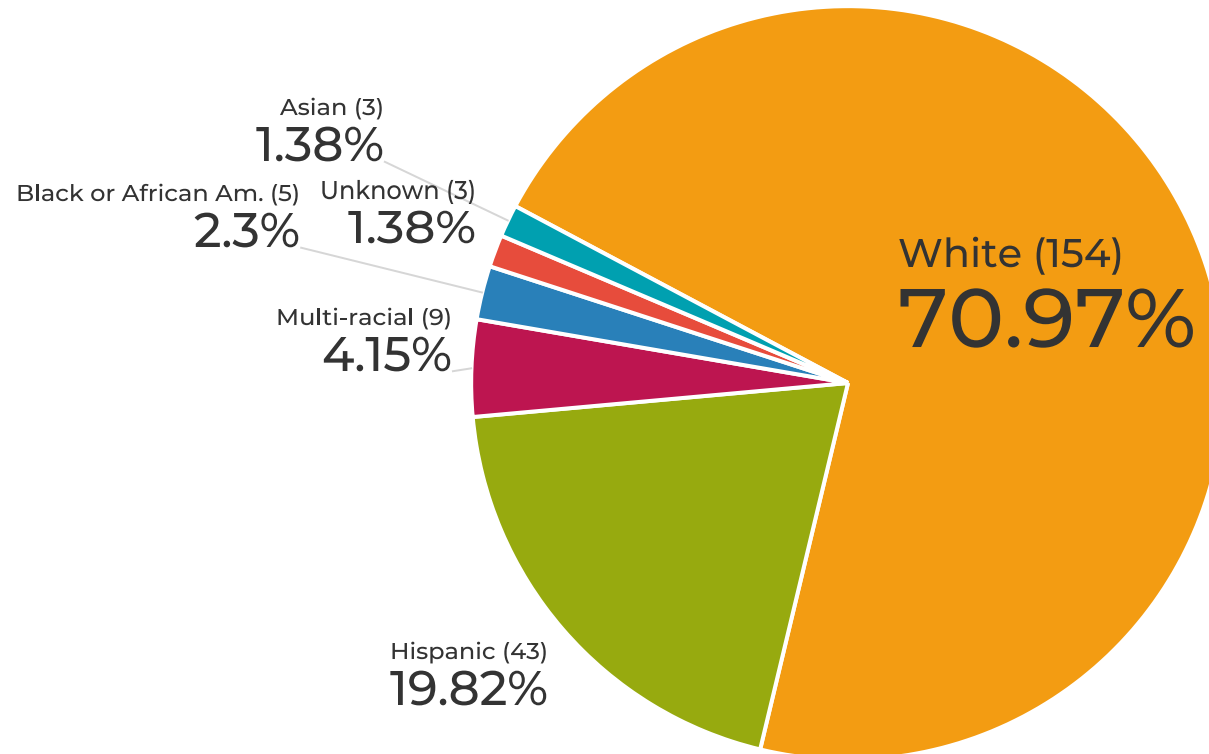


# Average Student Demographics

## Automotive Collision and Repair Technology (ACRT)

2019 - 2022

16% Female  
81% Male  
3% Unknown



### COLLEGE OF MARIN CREDIT STUDENT CHARACTERISTICS

**Gender: Male 39% Female 60%;**

**Median Age: 23**

**Race/Ethnicity:**

**Asian: 487 (7%)**

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**Multi-racial: 408 (6%)**

**Native American: 14 (0.2%)**

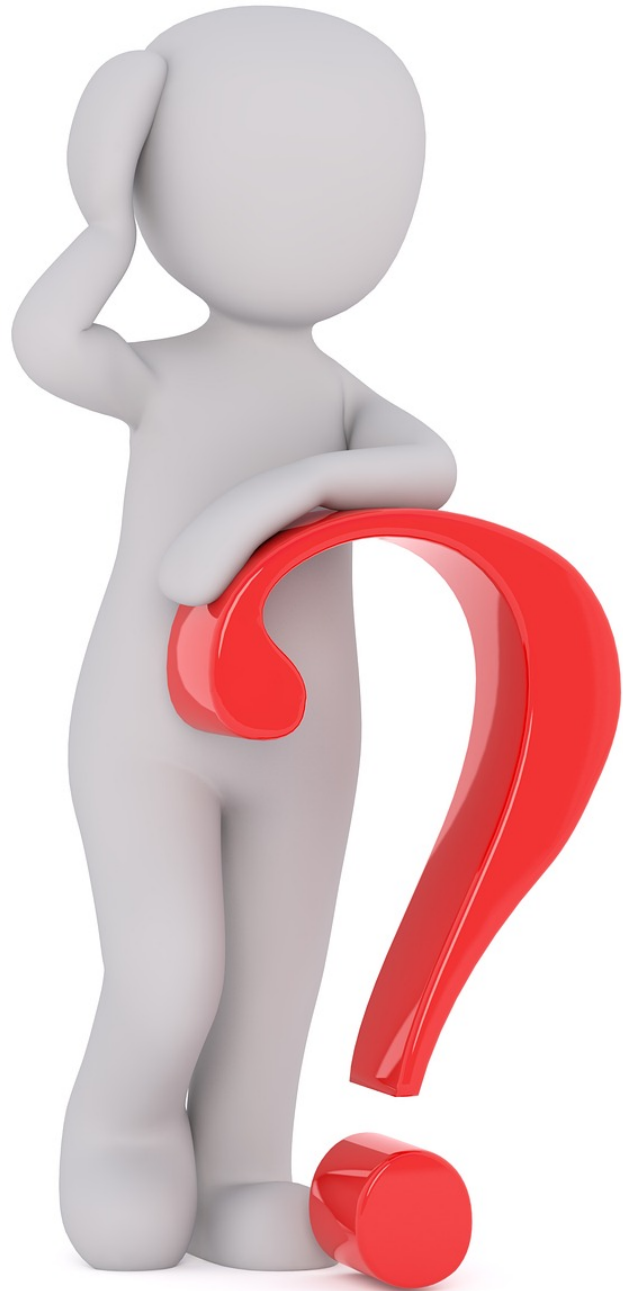
**Native Hawaiian/Pacific Islander: 13 (0.2%)**

**White: 3,211 (48%)**

# Awards Earned

## 2022-2023 Academic Year

- **1** - AS Degree - Auto Technology, Master Repair Technician
- **12** - Certificates - Automotive Technology
- **3** - Certificates - ACRT - Master Collision Repair
- **16** - Awards Total



# Advisory Check-in

## PRIORITIES AND CURRENT LANDSCAPE

# Advisory Member Share Outs & Discussion

What has this last year looked like for your field?

What should we be aware of to support our future students?

*Be on the look out! Community Survey is Coming Soon!*



### Staffing and Recruiting

- What are your current priorities and needs for hiring?



### Community Partnership & Impacts

- How should we best prepare our students to be qualified and competitive?



### Other Key Items?

- Potential technology, training, or emerging sectors?



### Training & Professional Development

- Are there professional development options needed for your industry?



# Labor Market Information

Heather Rahman

Program Coordinator, Career Education

# Regional Labor Market Information

Regional Counties:  
Marin, Napa, Sonoma,  
Solano, San Francisco  
and San Mateo

Sources: Employment Development Division (EDD); Department of Labor  
and O\*Net Online

Per committee:  
"upper-end" body shops  
will hire new employees  
at rate of \$25/hour =  
\$48,000/year; \$30/hour  
Apprentices; \$45 -  
55/hour for Journeyman  
Techs

| Automotive COM Offerings                                     | Occupation  | Job Titles  | Average Annual Earnings | Annual Job Openings projected through 2028 |
|--|---|---|-------------------------|--|
| Certificate or A.S. in ACRT, Master Collision Repair         | Automotive Body and Related Repairers                         | Auto Body Repair Tech, Auto Body Repairman, Collision Repair Tech, Refinish Tech                          | \$61,770                | 123  |
| Certificate or A.S. degree in AUTO, Master Repair Technician | Automotive Service Technicians and Mechanics                  | Auto Mechanic, Automotive Drivability Tech, Auto Service Technician, Master Auto Technician, Service Tech | \$60,700                | 557  |
| Certificate, Automotive Electronics Specialist*              | Electronic Equipment Installers and Repairers, Motor Vehicles | Automotive Technician, Electronics Technician, Installation Technician                                    | \$44,290                | 500  |

\* CA State

<http://coeccc.net/>  
<https://www.onetonline.org/>





# Program Growth

Ron Palmer, Instructor and Career Education Chair

Mark Barrall, Instructor

# Purchasing Request

## Purchase of A/C recharge machine and R1234 machine

- capture and recycle R134a refrigerant
- no release to the atmosphere
- meet state law requirements
- requires capital outlay forms to Chancellor's Office for approval

Requires direct input from industry advisory board.

Thoughts on purchases?



# Virtual Reality



College of Marin is the

first college in the United States

to develop and implement virtual reality training into their automotive program.



In partnership with Transfer VR, College of Marin has developed virtual reality lessons in Automotive, Automotive Collision Repair and Electronics.



TRANSFR VR, a virtual reality st...



# Virtual Reality is Used in Training

- Other Automotive programs are now integrating VR into their curriculum.
- Several dealerships are now using VR as a training program for new employees.
- The airline industry is using VR to replace expensive simulator time.



# VR Lessons - Automotive Technology

- Intro and Controls Tutorial (Generic)
- Engine Oil Change
- Battery Safety and Service
- Starting and Charging Fundamentals
- Jacks, Jack Stands and Lift Safety
- Automotive Safety Awareness: Airbag, ABS, ADAS and HV Batteries
- Disc Brake Pad Replacement
- Drum Brake Shoe Replacement
- Suspension System Types
- Fuel System Fundamentals
- Fuel System Safety
- Engine Cylinder Compression Test
- Steering System Types



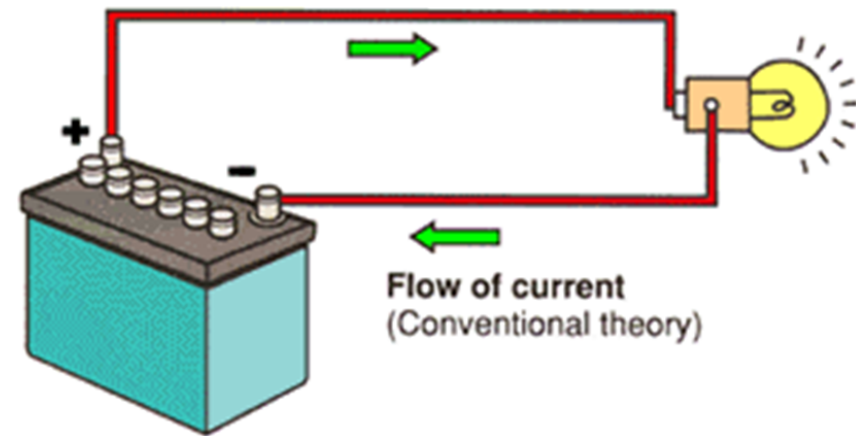
# VR Lessons - Automotive Collision Repair

- Basic Auto Body Hand Tools
- Basic Auto Body Power Tools
- Priming Prep - Masking
- Priming Panels
- Primed Prep/Sand for Paint
- Paint Gun and Equipment - Inspect and Clean
- Paint Gun and Equipment - Set up and Spray Patterns
- Paint Selection and Mixing
- Basic Painting
- Basic Painting 2 - Advanced Painting
- Basic Auto Body Straighten Fundamentals - Hammer & Dolly
- Basic Auto Body Straighten Fundamentals - Weld-on Pulling
- Basic Auto Body Filler - Prep
- Basic Auto Body Filler - Application
- Basic Auto Body Filler - Sanding
- Bead Blasting
- Powder Coating



# VR Lessons - Electrical

- Electrical Fundamentals and Ohms Law
- Electrical Repair – Connectors, Terminals and Splicing
- Electrical Repair – Basic Soldering
- Basic Electrical Tools – DVOM 1 Voltage
- Basic Electrical Tools – DVOM 2 Current
- Basic Electrical Tools – Test Light





# Online Classes

- College of Marin AUTO/ACRT programs have developed several 100% online classes incorporating VR.
  - AUTO 111 – Auto Maintenance Fundamentals
  - ACRT 110 – Introduction to Auto Restoration
  - ACRT 108 – Estimating for Collision Repair



# Hybrid Classes

College of Marin AUTO/ACRT programs have developed a variety of Hybrid courses. Hybrid classes include lectures, readings, discussions and testing online while labs are conducted in person and on site in the Trans Tech facility. Lectures are presented via Zoom where students actively participate through discussion, power points and guided practice. Lectures are recorded on Zoom so that students can review or watch them when convenient. This Hybrid method of delivery has provided more opportunities for student success and increased enrollment.



# Motorsports



Motorsports is the art of building, racing and maintaining a race car.





The U.S. Department of Labor recognizes Motorsports as an Industry.



# Program Description / Catalog Description

The Motorsports Technician program is designed to provide fundamental skills for an entry-level technician in a high-performance race shop. Graduates become skilled and proficient race car mechanics. The program offers a blend of hands-on and classroom training which prepares students to work in the challenging and rewarding fields of the Motorsport Industry. Students learn metal fabrication, MIG and TIG welding, engine building, custom painting, brakes, steering, and suspension. The Motorsport Technicians program teaches a combination of critical thinking skills and a hands-on approach to learning. The program is located in Novato, California, just west of Sonoma Raceway.

# Justification

Many students in our Automotive program have expressed their desire to work in the Motorsports Industry. We are not creating any new courses but are developing a new Motorsport certificate. This new certificate will combine two existing courses from Automotive Technology and three courses from Auto Collision Repair Technology. The blending of these five courses will prepare students for an entry level position in the Motorsports Industry.

Requirements include successful completion of the following courses with a 2.0 or better:

AUTO 112 Automotive Engines Troubleshooting

AUTO 118 Brakes, Alignment and Suspension Systems

ACRT 106 Metal Fabrication Troubleshooting

ACRT 107 MIG Welding for Automotive Collision Repair Technology

ACRT 201 Automotive Paint - Waterborne and Clear Coat



# AUTO 112

## Automotive Engines Troubleshooting



# AUTO 118

## Brakes, Alignment and Suspension Systems





# ACRT 106

## Metal Fabrication Troubleshooting



# ACRT 107

## MIG Welding for Automotive Collision Repair Technology



ACRT 201

Automotive Paint - Waterborne and Clear Coat



# Recommended Course Sequence

## Fall Semester

AUTO 118 Brakes, Alignment and Suspension Systems - 6 units

ACRT 107 MIG Welding for Automotive Collision Repair Technology - 2 units

ACRT 201 Automotive Paint - Waterborne and Clear Coat - 4 units

## Spring Semester

AUTO 112 Automotive Engines Troubleshooting - 6 units

ACRT 106 Metal Fabrication Troubleshooting - 2 units



Motorsports requires a great combination of critical thinking and hands-on skills.





# Motorsport Program

Requires direct input from industry advisory board.

Thoughts on the new program?



# High School Connections

Heather Rahman

Program Coordinator, Career Education

# Building Pathways

Currently working with local high schools to bridge their classes to College of Marin

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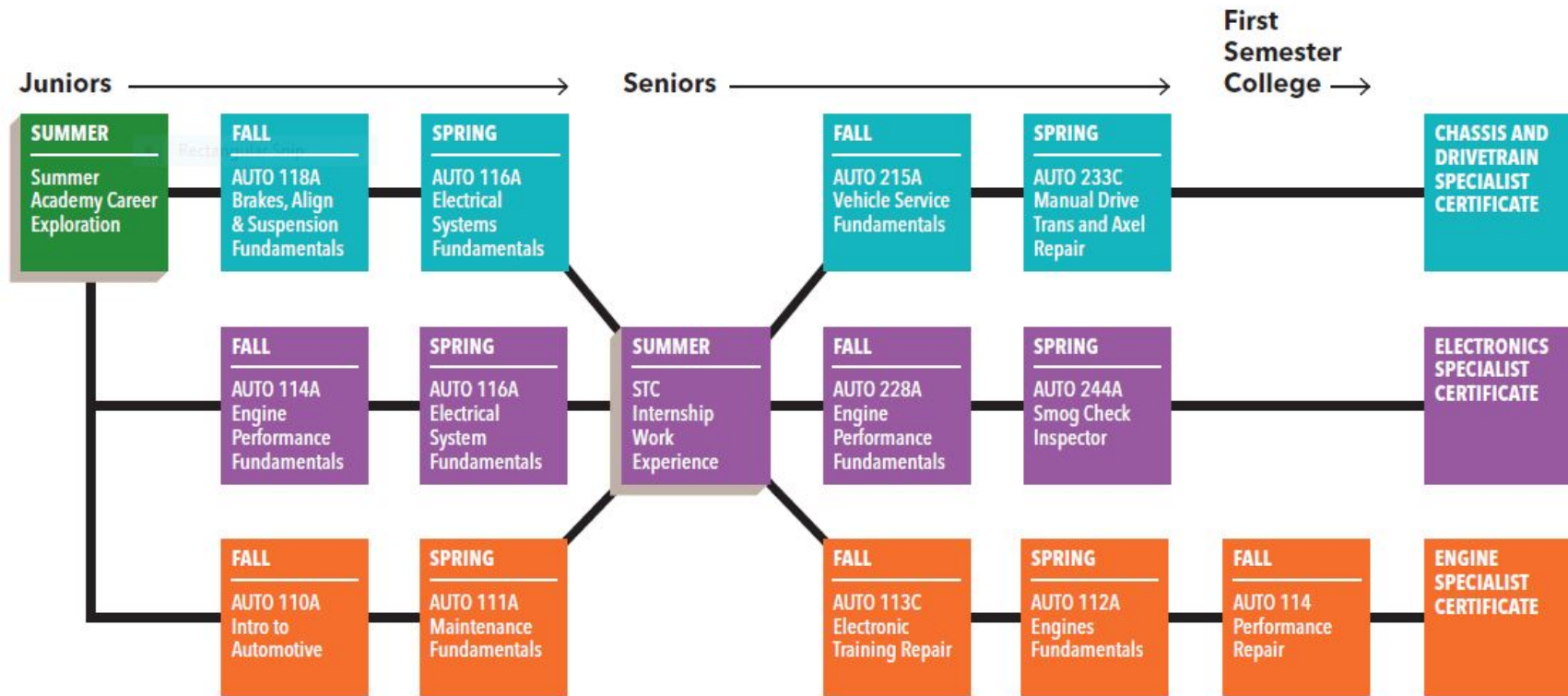
- Over 200 students currently in the Tamalpais HS Auto Course, Terra Linda ROP Auto courses, and the Car Appreciation and Preservation Program
- Looking to get each of those students signed up for Articulation by Exam credit for AUTO 110 and AUTO 111
- Working with NUSD to have about 20 students take AUTO 110 in Fall 2023
- Partnering with the County of Marin and car dealerships to offer more work-based learning opportunities for students.



# Auto Technology

## High School-to-College Career Pathway Map

academics.marin.edu/program/auto



To get first-hand knowledge of careers, join the Bright Futures Speaker Series at [marinschools.org/Page/8304](http://marinschools.org/Page/8304).



### Earn College Units

If you've come this far, you have either completed certificates in Chassis Drivetrain Specialist or Electronics Specialist. If you're on the Engine Specialist pathway, you only have one more class to go before you get to COM!



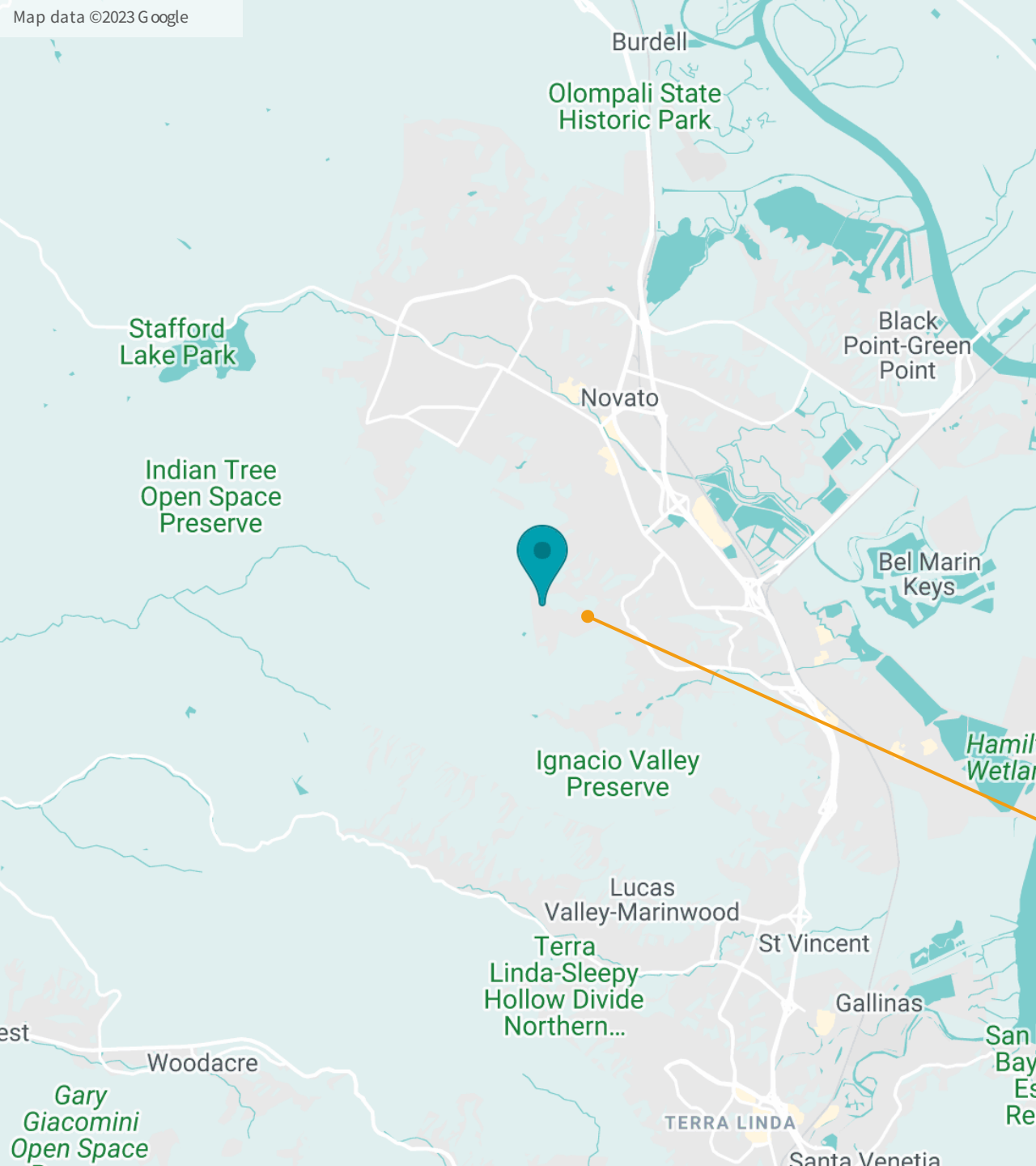


# Summary/Wrap-up

Thoughts? **Questions?**

NEXT STEPS





# Thank You!

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- @ Alina R Varona <arvarona@marin.edu>
- @ Heather J Rahman <hrahman@marin.edu>
- @ Ron Palmer <rpalmer@marin.edu>
- @ Mark Barrall <mbarrall@marin.edu>

**College of Marin, Indian Valley Campus**