

# MICHAEL WILLIAMS

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www.advisorybikelanes.com

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## WORK HISTORY

### **Michael Williams Company**

**2017–**

Consultancy specializing in the planning and design of active transportation projects and public works construction management. Specializing in research and advocacy of edge lane roads/advisory bike lanes.

Secured \$55,000 California SB1 grant to study edge lane road treatment - 2019

NCUTCD Technical Member – 2020

2020-2024 California State Highway Safety Plan Participant

### **Alta Planning + Design**

**Portland, OR**

**2016–2017**

Worked as IBPI intern, independent contractor and planner/engineer at Alta. Primary author of white paper on Advisory Bike Lanes. Created guidelines for low stress bicycle networks in roundabout corridors. Authored construction specifications for CV/Link project. Provided engineering input on various bicycle and pedestrian projects.

### **Graduate Research Assistant, Portland State University**

**Portland, OR**

**2015-2016**

Evaluated software for automated extraction of surrogate safety measures from traffic video; poster on research won first place at Transportation and Communities Summit, 2016; researched and recommended surrogate safety measures to be used for evaluation of signal strategies for reducing right hook collisions.

### **Student, M.S. Civil Engineering, Portland State University**

**Portland, OR**

**2015-2017**

Emphasis on Active Transportation. Coursework in Civil Engineering and Urban Planning. Chosen as IBPI Scholar and NITC Scholar.

### **General Contractor, Owner-Consultant, TMW**

**Mt Shasta, CA**

**2001-2015**

Licensed as a General Contractor in California, I support other general contractors that lack public works bidding, estimating, and project management capacity, specializing in Caltrans work. During the construction season, I managed multiple projects, some worth more than \$2 million.

For my primary client, I was responsible for increasing annual volume from \$3 million to \$10 million within a 5-year period. For this client, I initiated and moved the company from an emphasis on buildings to one on roads and bridges as the recession hit and ARRA funds became available.

### **Private Engineering Consultant, TMW**

**Mt. Shasta, CA**

**1994-1999**

Continued work with defibrillators and expanded to other medical devices. I authored requirements and specifications for features in next-generation defibrillators. I pursued patents on innovative features. I evaluated and recommended microprocessor architectures and development tools for use in future defibrillator systems. I conducted research on microprocessors, detection algorithms, and software development tools for other medical devices, e.g. implantable neural stimulators.

### **Manager Defibrillator Software Development, Ventrivetex**

**Sunnyvale, CA**

**1988-1994**

My chief research responsibility was creating new algorithms for detecting life-threatening cardiac rhythms. This required creation of specialized equipment and protocols for human and animal testing. Results of this testing were incorporated into software for implantable defibrillators. I created specialized tools for our testing and development environment. I moved the corporate software development environment from an ad hoc approach to a formal, executable object-oriented design methodology suitable for life-critical products. As

manager I had other responsibilities. In product development, I was a key contributor to system and device specification, took a lead role in system design for programmer/defibrillator partitioning and oversaw major software development projects. I was responsible for creating custom testing and development tools. On the research side, I evaluated competing patents affecting algorithm development and took a lead role in the creation/evaluation of arrhythmia detection algorithms. I grew my group from 2 to 14 people plus consultants.

***Worldwide Travel***

**1986-1988**

I spent over one year traveling the world.

***Manager and Lead Software Engineer, Harmon Electronics***

***Foster City CA***

**1982-1986**

My main responsibility was embedded systems programming on a real-time product used in the railroad field. My duties as a working manager included scheduling, lab supervision and supervision of 3 engineers.



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## P R E S E N T A T I O N S   A N D   P U B L I C A T I O N S

All publications available at [www.advisorybikelanes.com](http://www.advisorybikelanes.com)

<b><i>Sight Distance for Edge Lane Roads</i></b> August, 2021 ITE Journal Article	<b>2021</b>
<b><i>Safety Performance and New Uses of Edge Lane Roads</i></b> Organized and Co-Presented Panel at 2021 ITE International Conference	<b>2021</b>
<b><i>Novel Uses of Edge Lane Roads</i></b> Organized and Co-Presented Panel at 2021 Walk/Bike/Places Conference	<b>2021</b>
<b><i>Safety Performance of Edge Lane Roads</i></b> Jan 18, 2021 Poster Presentation of safety data at Transportation Research Board Annual Meeting	<b>2021</b>
<b><i>Safety Considerations for all Road Users on Edge Lane Roads</i></b> State of California SB1 grant-funded report that investigated the safety performance of edge lane roads, the factors relating to the rate of road user interaction, and use on rural, high-speed roads.	<b>2020</b>
<b><i>Edge Lane Roads – Introduction and New Uses</i></b> Oct. 2, 2020 Presentation to Caltrans Design Think Tank Meeting Aug 20, 2020 Presentation to the Streets & Freeways subcommittee of the Los Angeles Metro MPO Aug 6, 2020 Presentation to the Humboldt County Transportation Technical Advisory Committee	<b>2020</b>
<b><i>Edge Lane Roads – A New Type of Shared Road for All Vulnerable Road Users</i></b> May 29, 2020 Presentation at UC Davis Institute of Transportation Studies	<b>2020</b>
<b><i>Edge Lane Roads – A New Shared Road for All Vulnerable Road Users</i></b> March 11, 2020 Presentation at Community Transportation Association Northwest Summit	<b>2020</b>
<b><i>Advisory Bike Lanes and Shoulders: Current Status and Future Possibilities</i></b> December 2019 ITE Journal Article	<b>2019</b>
<b><i>Edge Lane Roads – Beyond the Guidance</i></b> August 26, 2019 APBP 2019 Conference Presentation	<b>2019</b>
<b><i>Advisory Bike Lanes May Improve Safety on Rural, High-Speed Roads</i></b> August 26, 2019 APBP 2019 Conference Poster	<b>2019</b>
<b><i>Edge Lane Roads Research Needs Statement</i></b> August 16, 2019 AASHTO Joint Technical Committee on Non-Motorized Transportation	<b>2019</b>
<b><i>Advisory Bike Lanes Overview</i></b> January 10, 2019 National Committee on Uniform Traffic Control Devices (NCUTCD) Meeting	<b>2019</b>
<b><i>Advisory Bike Lanes - A Detailed Discussion</i></b> October 25, 2018 Institute of Transportation Engineers (ITE) Webinar	<b>2018</b>
<b><i>ABLS - What are They? Why Should You Care? How To Use Them?</i></b> September 19, 2018, Presentation at 2018 Walk/Bike/Places Conference	<b>2018</b>
<b><i>Slow Streets Workshop</i></b> September 14, 2018, Transportation and Communities Summit Workshop on Slow Street Treatments	<b>2018</b>
<b><i>A New Type of Road for North America: Solving the Challenge of Non-Motorized Infrastructure with Advisory Bike Lanes</i></b> September 2018, ITE Journal Article	<b>2018</b>
<b><i>Designing for Rural Bicyclist Safety</i></b> August 16, 2018, National Center for Rural Road Safety Webinar	<b>2018</b>
<b><i>Moving Beyond the Centerline - Advisory Bicycle Lanes, Best Kept Secret</i></b>	<b>2018</b>



August 15, 2018, Association of Pedestrian and Bicycle Professionals (APBP) Webinar	
<b><i>A Review of the Oregon State Vehicle Code for ABL-Related Issues</i></b>	<b>2018</b>
Self-published at <a href="https://www.advisorybikelanes.com/uploads/1/0/5/7/105743465/review_of_oregon_state_vehicle_code_for_abl_relevant_passages.pdf">https://www.advisorybikelanes.com/uploads/1/0/5/7/105743465/review_of_oregon_state_vehicle_code_for_abl_relevant_passages.pdf</a>	
<b><i>Advisory Bicycle Lanes</i></b>	<b>2018</b>
May 30, 2018, Presentation to LiveMove	
<b><i>Advisory Bicycle Lanes</i></b>	<b>2018</b>
May 30, 2018, Presentation to City of Eugene with advice on current projects	
<b><i>Advisory Bike Lanes: Current Status and a Way Forward</i></b>	<b>2018</b>
April 5, 2018, Presentation to California DOT and California Bicycle Advisory Committee	
<b><i>Advisory Bicycle Lanes - Guidance and Case Studies</i></b>	<b>2018</b>
March 27, 2018, Presentation to Oregon DOT	
<b><i>Advisory Bicycle Lanes Research Needs Statement</i></b>	<b>2018</b>
January 20, 2018, Adopted by Transportation Research Board	
<b><i>Overview of Advisory Bike Lanes in North America</i></b>	<b>2017</b>
Presentation for Transportation and Research and Education Center at Portland State University	
<b><i>Advisory Bike Lanes Workshop</i></b>	<b>2017</b>
Workshop at 2017 California Bike Summit	
<b><i>Road Diet V2.0: 5 Lanes to 2 Lanes</i></b>	<b>2017</b>
Presentation to Oregon DOT on corridor transformation using roundabouts and road diets.	
<b><i>Advisory Bike Lanes</i></b>	<b>2017</b>
Pecha Kucha presentation, 2017 Transportation and Communities Summit	
<b><i>Lessons Learned: Advisory Bike Lanes in North America</i></b>	<b>2017</b>
White paper on ABLs in North America, published by Alta Planning + Design.	
<b><i>Feasibility Guide for Road Diet V2.0 - A 5/4 Lane to 2 Lane Road Diet</i></b>	<b>2017</b>
Self-published at <a href="http://www.advisorybikelanes.com/road-diet.html">www.advisorybikelanes.com/road-diet.html</a> .	
<b><i>Sight Distance for Advisory Bicycle Lanes</i></b>	<b>2017</b>
Self-published at <a href="http://www.advisorybikelanes.com/uploads/1/0/5/7/105743465/sight_distance_for_advisory_bike_lanes.docx">www.advisorybikelanes.com/uploads/1/0/5/7/105743465/sight_distance_for_advisory_bike_lanes.docx</a>	
<b><i>Advisory Bicycle Lanes – Reality versus Design Guidance</i></b>	<b>2017</b>
Self-published at <a href="http://www.advisorybikelanes.com/uploads/1/0/5/7/105743465/2018_trb_abl_paper_on_existing_abls_and_design_guidance.pdf">www.advisorybikelanes.com/uploads/1/0/5/7/105743465/2018_trb_abl_paper_on_existing_abls_and_design_guidance.pdf</a>	



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## P A T E N T S

- “Medical Device with Morphology Discrimination”, U.S. Patent No. 5,240,009, sole author, European patent issued
- “Method and Apparatus for Interrogating an Implanted Cardiac Device”, U.S. Patent No. 5,413,594, sole author, European patent issued
- “Implantable Defibrillator Output Stage Test Circuit and Method”, U.S. Patent No. 5,431,684, co-author, European patent issued
- “A Method and System for Testing an Implantable Defibrillator Output Stage and High Voltage Lead Integrity”, U.S. Patent No. 5,453,698, co-author
- “Apparatus and Method for Presenting Patient Electrocardiogram and Implantable Device Status Information”, U.S. Patent No. 5,669,391, sole author
- “Method for Storing EGM and Diagnostic Data in a Read/Write Memory of an Implantable Cardiac Therapy Device”, U.S. Patent No. 5,732,708, co-author
- “System and Method for Waveform Morphology Comparison”, U.S. Patent No. 5,779,645, co-author
- “System and Method for Optimal Sensing of Cardiac Events”, U.S. Patent No. 5,941,830, sole author
- “Methods For Sensing Arrhythmias in a Pacemaker/Defibrillator and a Pacemaker/Defibrillator Programmed to Implement the Same”, U.S. Patent No. 6,484,058, co-author
- "Methods For Sensing Arrhythmias In A Pacemaker/Defibrillator And A Pacemaker/Defibrillator Programmed To Implement The Same", U.S. Patent No. 6,324,422, co-author
- "Methods For Sensing Arrhythmias In A Pacemaker/Defibrillator And A Pacemaker/Defibrillator Programmed To Implement The Same", U.S. Patent No. 6,564,097, co-author

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## P R O F E S S I O N A L O R G A N I Z A T I O N S A N D A W A R D S

### ***IBPI Scholar***

**2016**

The Initiative for Bicycle and Pedestrian Innovation awards \$2,500 and a paid Alta internship to a student who is highly motivated to focus on bicycling and walking as mainstream forms of transportation.

### ***NITC Scholar***

**2016**

The National Institute for Transportation and Communities recognizes outstanding students working on transportation projects.

### ***Citizen of the Year, City of Mt. Shasta***

**2000**

Because of my work on fundraising and construction of the Siskiyou Ice Rink and the establishment of the Mt. Shasta Summit Century, I was selected Mt. Shasta's Citizen of the Year in 2000.

### **Institute of Electrical and Electronics Engineers (IEEE) EMBS Chapter Chairman**

**1990 - 1992**

Awarded Outstanding Chapter of the Nation by IEEE in 1992

### ***Member of ITE, APBP, ASCE***



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## E D U C A T I O N

M.S. Civil Engineering	Portland State University	2015 – 2017
M.S. Electrical Engineering	UC Santa Barbara	1984 – 1986
B.S. Computer Engineering, Math/Physics minor	CSU Chico	1977 – 1982

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## C O L L A B O R A T I O N   A N D   L E A D E R S H I P

**Action Item Lead** *California State Highway Safety Plan* **2020-2024**  
Member of the Pedestrian and Bicycle Challenge Areas. Lead for action items in the Pedestrian, Bicycle, and Lane Departure Challenge Areas.

**Technical Member** *NCUTCD Bicycle Technical Committee* **2020-**  
Member of Advisory Bike Lane Task Force

**Research Needs Statements** **2018-**  
Authored research needs statements for AASHTO, TRB, NCHRP.

**Advisory Bike Lanes Listserve** **2018-**  
Established and curated an email listserve for those interested in edge lane roads, AKA advisory bike lanes

**Active Transportation Advocate** *Siskiyou County, CA* **2006-2015**  
**For the City of Mt. Shasta:** I fundraised and guided creation of the City's AT master plan in 2007. I chaired the City's AT committee for most of its life, won 4 grants worth over \$250K to build bike lanes and trails, worked with City Police to reverse a six-fold decrease in collision reporting, I managed a traffic safety assessment for City, I have led the effort for a detailed design document for our primary AT facility.

**For our Regional Trail:** I established the concept, gathered County stakeholders, held support-raising and informational meetings, performed route finding, conducted ROW acquisition negotiations, developed a plan for funding ROW acquisition, developed a design document for the trail showing current conditions and preferred treatments for each segment.

**For the County:** I submitted a grant application for a countywide Active Transportation Plan and advocated for greater transparency at the Regional Transportation Planning Agency. Advised City of Weed on their Active Transportation Plan.

**Outside the County:** I am a member of the Policy Advisory Council for the California Bicycle Coalition, the state's premier lobbying organization on cycling issues. I am a former Boardmember of Shasta Living Streets in Redding, CA which is a successful active transportation advocacy organization.

**Self Education:** In the ten years prior to entering PSU, I self-educated myself on AT facility design, street design, industry standards, road geometrics, transportation funding programs/processes and grant preparation/submittals.

**Chair, Planning Commission** **1997-2000**  
I was appointed to the Planning Commission for the City of Mt. Shasta in 1997 and became its Chair soon thereafter. I stepped down to spend more time with my twin daughters.

**Leader & Project Manager, Siskiyou Ice Rink** **1998-2007**



In 1998, I initiated a project to build an ice skating rink in Mt. Shasta. I spearheaded the most successful fundraising effort in County history and oversaw rink construction. I remained involved for years after construction helping with fundraising and operations. We raised over \$700,000, mostly from grants.

***Co-Founder, Mt. Shasta Summit Century and Mountain Wheelers*** **1997-2014**

A friend and I founded the Mt. Shasta Summit Century and a cycling group to support it. The century is a supported bicycle ride which ranks as one of the most difficult in the nation and has grown to over 600 riders. All profits from the ride (\$10,000 - \$20,000 per year) go to trails, public projects and youth sports groups.

***Founder and Chair of ACROSS (Associated Charitable Resource of South Siskiyou)*** **2000-2016**

I established a 501(c)3 nonprofit organization whose purpose is to incubate and umbrella charitable community projects for which the burden of establishing a dedicated nonprofit corporation is excessive. Our biggest successes were a 13,000 square foot skateboard park and the Siskiyou Ice Rink.

***Chair, Computer Science Honor Society (Upsilon Pi Epsilon)*** **1982**

***Chair, Association of Computing Machinery (ACM)*** **1982**

I held these positions while an undergraduate student at the California State University in Chico, CA.

