

MICHAEL WILLIAMS

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www.advisorybikelanes.com

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

W O R K H I S T O R Y

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 advisory bike lane use in rural areas - 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, Ventritex 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.



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

<i>Edge Lane Roads – A New Type of Shared Road for All Vulnerable Road Users</i> May 29, 2020 Presentation at UC Davis Institute of Transportation Studies	2020
<i>Edge Lane Roads – A New Shared Road for All Vulnerable Road Users</i> March 11, 2020 Presentation at Community Transportation Association Northwest Summit	2020
<i>Advisory Bike Lanes and Shoulders: Current Status and Future Possibilities</i> December 2019 ITE Journal Article	2019
<i>Edge Lane Roads – Beyond the Guidance</i> August 26, 2019 APBP 2019 Conference Presentation	2019
<i>Advisory Bike Lanes May Improve Safety on Rural, High-Speed Roads</i> August 26, 2019 APBP 2019 Conference Poster	2019
<i>Edge Lane Roads Research Needs Statement</i> August 16, 2019 AASHTO Joint Technical Committee on Non-Motorized Transportation	2019
<i>Advisory Bike Lanes Overview</i> January 10, 2019 National Committee on Uniform Traffic Control Devices (NCUTCD) Meeting	2019
<i>Advisory Bike Lanes - A Detailed Discussion</i> October 25, 2018 Institute of Transportation Engineers (ITE) Webinar	2018
<i>ABLS - What are They? Why Should You Care? How To Use Them?</i> September 19, 2018, Presentation at WalkBikePlaces,	2018
<i>Slow Streets Workshop</i> September 14, 2018, Transportation and Communities Summit Workshop on Slow Street Treatments	2018
<i>A New Type of Road for North America: Solving the Challenge of Non-Motorized Infrastructure with Advisory Bike Lanes</i> September 2018, ITE Journal Article	2018
<i>Designing for Rural Bicyclist Safety</i> August 16, 2018, National Center for Rural Road Safety Webinar	2018
<i>Moving Beyond the Centerline - Advisory Bicycle Lanes, Best Kept Secret</i> August 15, 2018, Association of Pedestrian and Bicycle Professionals (APBP) Webinar	2018
<i>A Review of the Oregon State Vehicle Code for ABL-Related Issues</i> Self-published at https://www.advisorybikelanes.com/uploads/1/0/5/7/105743465/review_of_oregon_state_vehicle_code_for_abl_relevant_passages.pdf	2018
<i>Advisory Bicycle Lanes</i> May 30, 2018, Presentation to LiveMove	2018
<i>Advisory Bicycle Lanes</i> May 30, 2018, Presentation to City of Eugene with advice on current projects	2018
<i>Advisory Bike Lanes: Current Status and a Way Forward</i> April 5, 2018, Presentation to California DOT and California Bicycle Advisory Committee	2018
<i>Advisory Bicycle Lanes - Guidance and Case Studies</i> March 27, 2018, Presentation to Oregon DOT	2018
<i>Advisory Bicycle Lanes Research Needs Statement</i> January 20, 2018, Adopted by Transportation Research Board	2018



Overview of Advisory Bike Lanes in North America Presentation for Transportation and Research and Education Center at Portland State University	2017
Advisory Bike Lanes Workshop Workshop at 2017 California Bike Summit	2017
Road Diet V2.0: 5 Lanes to 2 Lanes Presentation to Oregon DOT on corridor transformation using roundabouts and road diets.	2017
Advisory Bike Lanes Pecha Kucha presentation, 2017 Transportation and Communities Summit	2017
Lessons Learned: Advisory Bike Lanes in North America White paper on ABLs in North America, published by Alta Planning + Design.	2017
Feasibility Guide for Road Diet V2.0 - A 5/4 Lane to 2 Lane Road Diet Self-published at www.advisorybikelanes.com/road-diet.html .	2017
Sight Distance for Advisory Bicycle Lanes Self-published at www.advisorybikelanes.com/uploads/1/0/5/7/105743465/sight_distance_for_advisory_bike_lanes.docx	2017
Advisory Bicycle Lanes – Reality versus Design Guidance Self-published at www.advisorybikelanes.com/uploads/1/0/5/7/105743465/2018_trb_abl_paper_on_existing_abls_and_design_guidance.pdf	2017



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

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



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 – most for edge lane roads.

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.

