Michigan Automated and Connected Vehicle Working Group Meeting Packet

April 29, 2013

1. Agenda
2. Meeting Notes
3. Meeting Photos
4. Attendance List
5. Presentations

MICHIGAN AUTOMATED AND CONNECTED VEHICLE WORKING GROUP

Monday, April 29, 2013

Visteon Corporation
One Village Center Drive
Van Buren Township, Michigan 48111

MEETING AGENDA

1:00 PM Introductions, Richard Wallace, CAR

1:05 PM Visteon Corporation Welcome, Tim Yerdon, Director – Innovation and Design, Visteon Corporation

1:25 PM Overview, Richard Wallace, CAR

1:35 PM Mobile Technology Association of Michigan, Jeremy Eckhous, Compuware

1:40 PM Robot Day Presentation, Phil Callihan, NCMS

2:05 PM ITS America Annual Meeting Recap, ALL

2:20 PM Automated Vehicle Licensing in Michigan, Matt Smith, MDOT

2:35 PM Networking Break

2:50 PM GROUP ACTIVITY: Solicitation of input on updated draft of MDOT Connected and Automated Vehicle Technology Strategic Plan

3:10 PM Connected Vehicle Safety Pilot Update and Upcoming Global Symposium, Debby Bezzina, UMTRI

3:40 PM 2014 ITS World Congress Update, Jim Barbaresso, HNTB

4:00 PM Adjourn

MICHIGAN AUTOMATED AND CONNECTED VEHICLE WORKING GROUP

The April 2013 meeting of the Michigan Automated and Connected Vehicle Working Group was hosted by Visteon Corporation at the Grace Lake Corporate Center in Van Buren Township, Michigan on April 29, 2013.

MEETING NOTES

Richard Wallace of the Center for Automotive Research (CAR) gave a brief welcome and attendees briefly introduced themselves. Richard then handed the microphone to Tim Yerdon, Director of Innovation and Design at Visteon. Tim welcomed the working group attendees to the Grace Lake Corporate Center, which Visteon shares with General Electric and Dana Holding Corp. He discussed Visteon's business units, customers, and strengths. Tim also presented on Visteon's e-Bee concept, a vision for mobility in 2020 that integrates several Visteon technologies in manner that supports personalization of the driving cockpit. The e-Bee was recently featured at the 2013 Consumer Electronics Show in Las Vegas and the 2013 Shanghai Auto Show.

Richard Wallace then reviewed a list of upcoming events related to automated and connected vehicle technology. Several attendees noted additional events of interest. The ITS Michigan Annual Meeting and the TRB Planning Committee Meeting were mentioned. Scott McCormick, President of the Connected Vehicle Trade Association (CVTA), added that the TRB Transportation Law Workshop will be held in Nashville July 21-24. Scott also mentioned two CVTA sessions that could be of interest and added that these sessions were nearly full. Contact Scott McCormick for more information and to register.

Jeremy Eckhous of the Mobile Technology Association of Michigan (MTAM) gave a brief overview of MTAM, including a description of its leadership and mission. He also spoke about how Michigan can lead in the realm of connected vehicles and, more broadly mobile/wireless technologies, by building infrastructure; training the workforce; facilitating collaboration among companies, educational institutions, and government agencies; and marketing the state's strengths.

Jeremy was followed by Phil Callihan of the National Center for Manufacturing Sciences (NCMS), and Phil spoke about Michigan Robotics Day, which was formed within the framework of National Robotics Week. The Michigan Robotics Day was hosted at the University of Michigan and had 500 attendees from industry, education, research, and government organizations. The event was held on April 15th, 2013, and the State of Michigan recognized that date as Michigan Robotics Day for the entire state. Phil also mentioned that licensing automated vehicles is a huge area for potential growth, as it would provide organizations with a clear path to vehicle testing even if they have not partnered with an automaker.

Phil's presentation was followed by a group discussion of Michigan legislation regarding automated vehicle testing and licensing. Bill Shreck of the Michigan Department of Transportation spoke about the legislation. Michigan law already allows automakers to test vehicles and new technologies of all sorts on public roads via the "M" plate. The legislation currently in the Michigan Senate will broaden the availability of testing beyond just automakers, while setting requirements that organizations must meet to be eligible for testing. MDOT and the Secretary of State are both involved in this effort.

Richard then led a discussion on the recent ITS America annual meeting, highlighting interesting presentations and meetings. This was followed by a group activity that focused on the MDOT Connected and Automated Vehicle Technology Strategic Plan. Richard solicited feedback from

working group participants on the high-level language (mission, vision), categories, and major strategies that will be documented in the final document. The assembled stakeholders provided good feedback that will be useful in creating the next draft of the plan.

Following the strategic plan group activity, Debby Bezzina of the University of Michigan Transportation Research Institute (UMTRI) presented an update on the Connected Vehicle Safety Pilot Model Deployment. She reported that 2,800 of the targeted 2,836 vehicles have been deployed. Stage III interoperability testing was completed in December and testing of certificate downloads was completed in January. With respect to infrastructure, all units in Ann Arbor are operational (including pedestrian detection equipment at some intersections), but they are working through IPv6 issues on the three freeway sites. Debby also presented on the Global Symposium on Connected Vehicles and Infrastructure, which will occur in Ann Arbor on May 14-16.

Closing out the meeting, Jim Barbaresso of HNTB gave an update on the 2014 ITS World Congress. The event will be held September 7-11, 2014 at Cobo. The venue will be undergoing renovations, and the event will be one of its first users after renovations are complete. The Technology Showcase committee has received seven submissions of interest so far. The event will feature a functional traffic management center with real data on the exhibit hall floor as well as a racetrack. The focus of the 2014 ITS World Congress is to make technology demonstrations relevant and provide an immersive experience and, as part of that goal, demonstrations will be staged inside Cobo rather than at another location.

MICHIGAN AUTOMATED AND CONNECTED VEHICLE WORKING GROUP MEETING PHOTOS

Images Courtesy of Visteon Corporation

MICHIGAN AUTOMATED AND CONNECTED VEHICLE WORKING GROUP

ATTENDANCE LIST

First	Last	Organization	Email
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Robert	Bucciarelli	Visteon	rbucciar@visteon.com
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Hongwei	Zhang	Wayne State University	hongwei@wayne.edu

MICHIGAN AUTOMATED AND CONNECTED VEHICLE WORKING GROUP PRESENTATIONS

Michigan Automated and Connected Vehicle Working Group

Visteon Corporation

Van Buren Township, MI

April 29, 2013

Agenda for This Afternoon

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Working Group Mission

- Cooperatively pursue projects and other activities that are best accomplished through partnerships between multiple agencies, companies, universities, and other organizations and that ultimately advance Michigan's leadership position in automated and connected vehicle research, deployment, and operations.
  - Benefit our state and our industry (automotive and more)
  - Enhance safety and mobility in Michigan and beyond

Upcoming Automated and Connected Vehicle Events of Note

- ITS Michigan Annual Meeting
  - May 14, 2013, Ann Arbor (6-8 pm)
- Global Symposium on Connected Vehicles and Infrastructure
  - May 14-16, 2013, Ann Arbor, MI
- Telematics Detroit
  - June 5-6, 2013, Novi, MI
- AUVSI Driverless Car Summit
  - June 11-12, 2013, Detroit
- V2V & V2I for Auto Safety
  - July 9-10, Novi, MI
- TRB Summer Automated Highway Meeting
  - July 16-19, 2013, Stanford, CA
- Next meeting of this Working Group
  - July 2013
- CAR Management Briefing Seminars
  - August 5-8, 2013, Acme, MI
- ITS World Congress
  - October 14-18, 2013, Tokyo, Japan
- ITS World Congress
  - September 7-11, 2014, Detroit, MI

Visteon®

Our Family
of Businesses

HVCC

Halla Visteon Climate Control Corp.

Visteon®
Electronics

Visteon®
Interiors

Visteon

Yanfeng Visteon

Connected Vehicle Work Group Meeting

Timothy J. Yerdon
April 29th, 2013

Visteon at a Glance

- Leading provider of value-added components/systems to a broad range of global vehicle manufacturers
- Employees
  - 22,000 consolidated
  - 55,000 including unconsolidated
- 2012 sales
  - $6,857 million consolidated
  - $6,928 million unconsolidated
- Facilities in 29 countries

We aspire to …

Be the best in the world at partnering with our customers to provide innovative, high-quality products that deliver exceptional value

Visteon Family of Businesses

Visteon is a leading global automotive supplier delivering value for vehicle manufacturers and shareholders through a family of businesses including:

Halla Visteon Climate Control Corp.

2012 Sales
$4.1B

Halla Visteon Climate Control, majority-owned by Visteon and the world's second largest global supplier of automotive climate components and systems.

Visteon Electronics

2012 Sales
$1.3B

Visteon Electronics, a leading global supplier of audio and infotainment, driver information, center stack electronics and feature control modules.

Visteon Interiors

2012 Sales
$1.4B

Visteon Interiors, a global provider of vehicle cockpit modules, instrument panels, consoles and door trim modules.

2012 Sales
$7.0B
(Non-Consolidated)

Yanfeng Visteon Automotive Trim Systems Co., Ltd., a successful China-based partnership between Visteon and Shanghai Automotive Industrial Company's automotive components group, Huayu Automotive Systems.

Product Portfolio

Halla Visteon Climate Control Corp.

- Heating, Ventilation and Air Conditioning (HVAC)
- Compressors
- Powertrain Cooling
- Fluid Transport and
- Electric vehicle and hybrid thermal systems

Visteon Electronics

- Audio & infotainment
  - Audio head units
  - Infotainment
  - Audio components
- Information and controls
  - Instrument clusters
  - Displays
  - Climate controls
  - Decorative control panels

Visteon Interiors

- Cockpit modules
- Instrument panels
- Door panels and trim
- Floor consoles

- Instrument and door panels
- Trim covers
- Mechanisms
- Foam pads
- Driver information
- Entertainment
- Center stack electronics
- Bumpers
- Body trim
- Rear closures
- Fenders
- Steering wheels
- Air bags
- Seat belts

A Strong and Growing Customer Base

Visteon

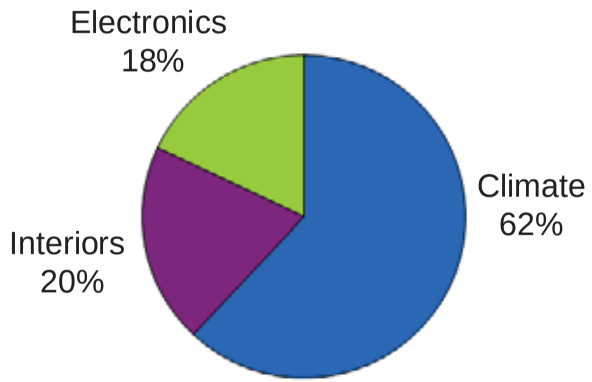
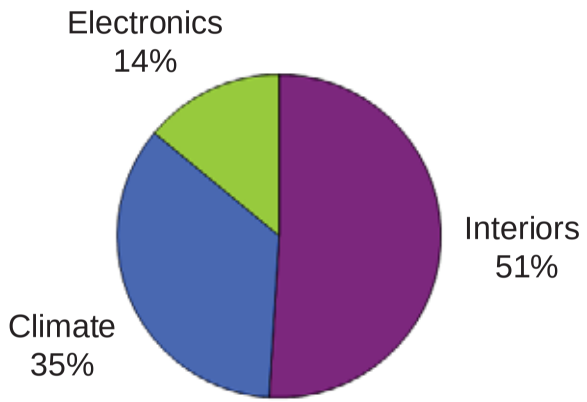
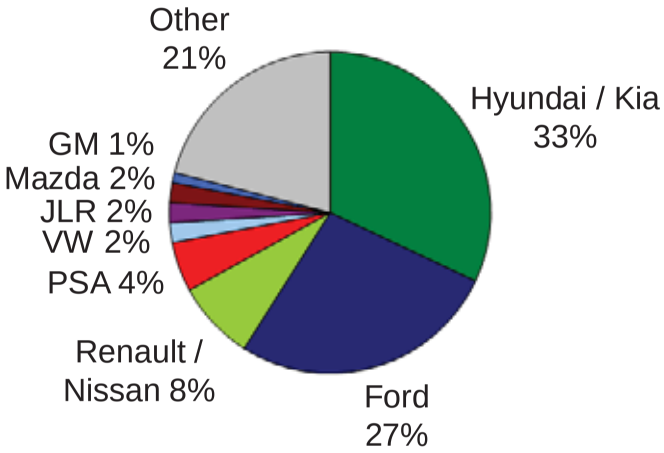
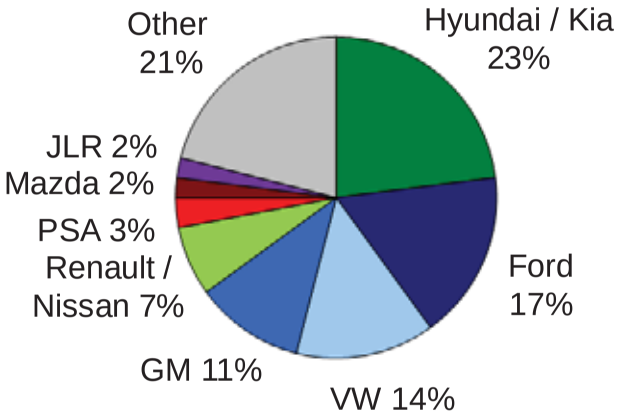
Ford
RENAULT NISSAN
NISSAN
GM
BMW
CHRYSLER
JAGUAR
LAND ROVER
LAMBORGHINI

KIA
PSA PEUGEOT CITROËN
FIAT
mazda
MITSUBISHI MOTORS
Mercedes-Benz
Audi

TOYOTA
VOLVO
上海大众
MARUTI SUZUKI
Mahindra
TATA
JMC

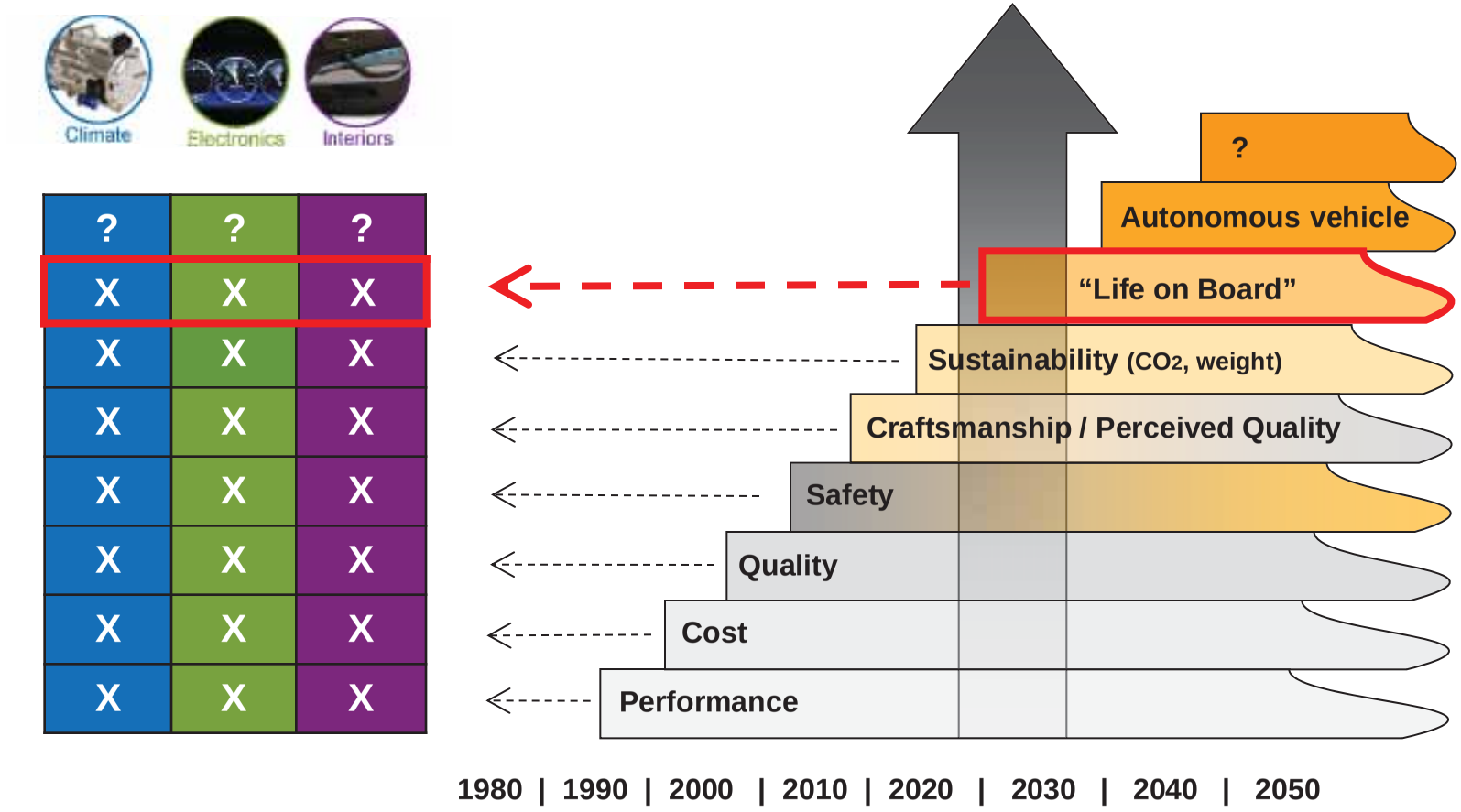
CHANA
BRILLIANCE
CHERY
SAIC
上汽通用五菱
SGMW
Ssang Yong
GEELY
AUTOVAZ

Sales Profile – Full-Year 2012

	Consolidated	Including Non-Consolidated
Product Line		
Customer		
Total Sales	**$6.9 Billion**	**$13.8 Billion**

Innovation and Design Locations

Changes in Automotive Mobility



Leveraging Our Technology – The Buzz About e-Bee

- e-Bee – a vision of mobility for 2020 promoting the Visteon family of products
- Featured at Electronica in Munich and Consumer Electronics Show in Las Vegas
- 30+ different customer, partner and media events at Grace Lake Corporate Center in January and February; global events planned throughout 2013
- Continuous, positive media coverage

"The hottest car tech in Vegas"
Consumer Reports

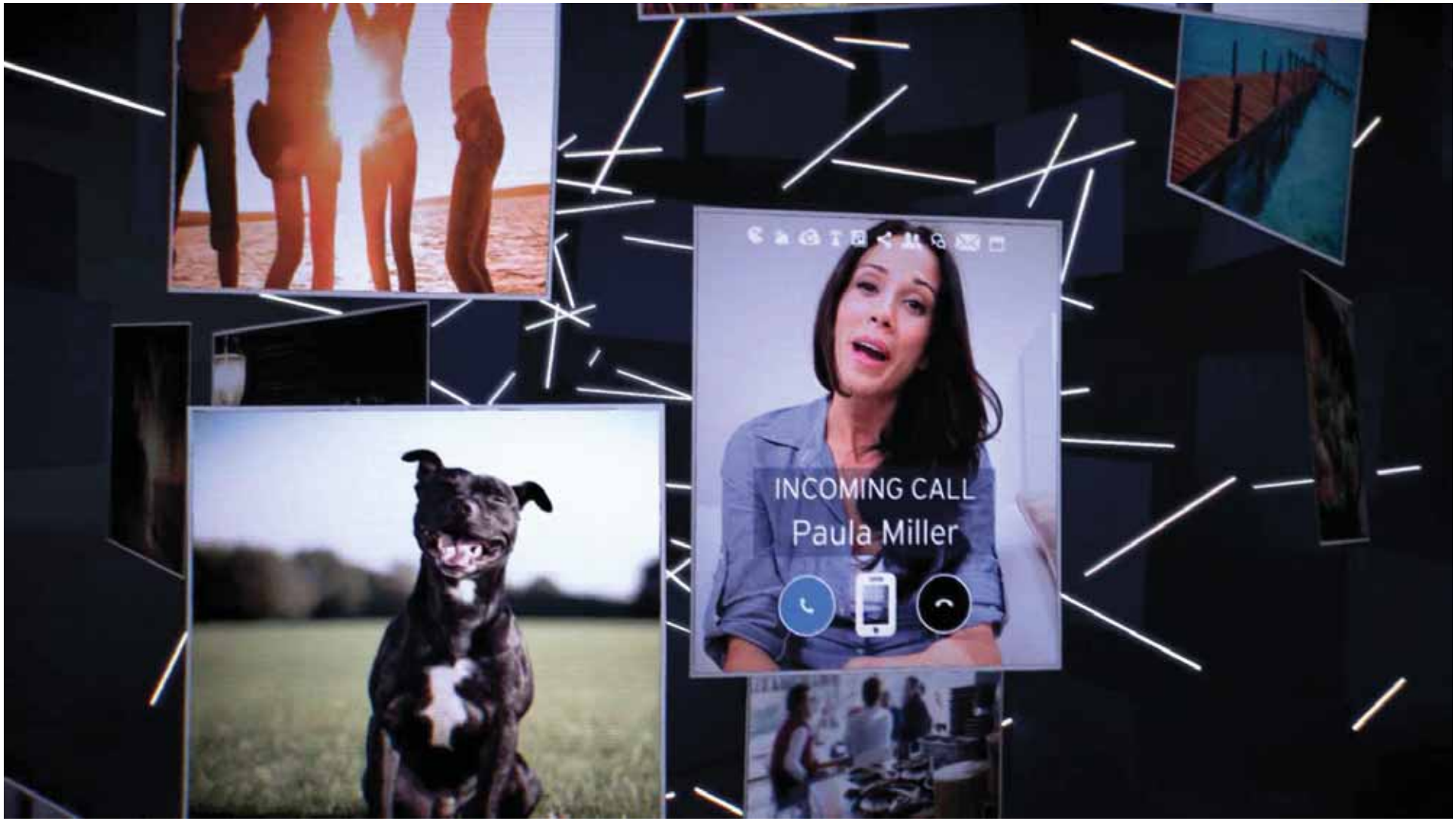
"Visteon e-Bee rethinks vehicle ownership, usage patterns"
Wards Auto

Customer Feedback

"This is the best concept vehicle we have seen from a Tier 1"

"We are really impressed with your innovation philosophy, we want you to help us redesign our future programs."

"We work on the same driver centric HMI and we agree with your concept ... We are impressed with your capabilities."


INCOMING CALL
Paula Miller

Themes of the e-Bee

Simplicity

Get in and go

Frugality

Only what you need

Flexibility

Global scope, regional differentiation, personal identity

Theme Sketch (EU Variant)

Final Design (EU Variant)

Regional Variants – EU

Scenario: Public/Open Car-Sharing

Regional Variants – U.S.

Scenario: Private/Family Car-Sharing

Regional Variants – China

Scenario: Individual Ownership/Use

Technology Sheet

TECHNOLOGY: FEATURES

Climate

Architecture efficiency
1. Integrated climate system module
2. HVAC-free cockpit

Smart energy management
3. Electric compressor
4. Heat pump
5. Pre-conditioning
6. Cooled shopping box

Comfort on board
7. Comfort air diffusion
8. Cluster ion generator
9. Fragrance auto diffusion system

Electronics

Car Cloud connectivity
10. Mid-range infotainment platform
11. Open architecture framework
12. Car-to-car communication

Safe simple driver interface
13. Personalized HMI
14. Decorative control panels
15. Touchscreen with in-mold decoration
16. Reconfigurable TFT instrument cluster
17. Steering wheel controls
18. Head-up display
19. Panamorphic rear vision

Passenger life on board
20. Individual door controller
21. Passenger remote interface
22. Radio-frequency user identification
23. 4-zone individual audio
24. Wireless device charging

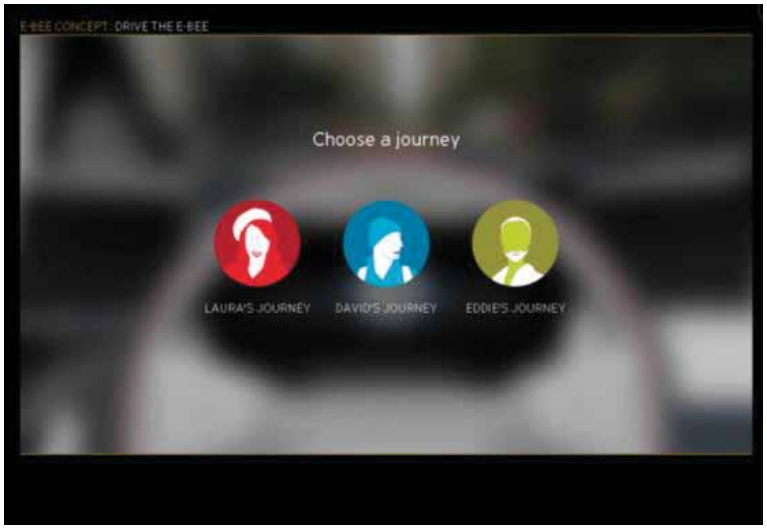
Interiors

Free architecture
25. Airbag-free cockpit
26. Composite structure
27. Minimal cockpit
28. Fixed passenger seat

Sustainable interiors
29. Full interior polypropylene
30. Recycled & bio-based resin
31. Visteon expanded polypropylene
32. Natural fiber hybrid system

'My e-Bee'
33. 2-layer architecture
34. Thin film overmolding
35. Digital decoration
36. Dynamic interior lighting
37. Design for physical apps
38. Exterior decoration

http://e-bee.visteon.com



Visteon®

MTAM
Mobile Technology Association of Michigan

Jeremy Eckhous

Greetings and Thank You!

- MTAM Ambassador
- Associate Chair, Marketing
- Assistant Organizer, Mobile Monday-Detroit

Who Is MTAM?

- MTAM - the ***Mobile Technology Association of Michigan*** **-** is a non-profit trade association for Michigan's mobile & wireless industry.

- Statewide producer of Mobile Monday - Michigan
  - Mobile / wireless industry networking and education organization
  - 4 chapters (Detroit, Ann Arbor, Lansing and Grand Rapids)
  - 2300 members statewide
  - Additional chapters in the planning stages for 2013.

MTAM Board of Directors

- Linda Daichendt
  - CEO/Executive Director, **Mobile Technology Association of Michigan**

    and
  - Co-founder, **Mobile Monday Michigan**
- Corporate Board Members drawn from across the state of Michigan:
  - IT, Manufacturing, Pro Sports, Marketing, Academia, Healthcare, Advanced Technology

The MTAM Mission

- Increase the use of Michigan-based mobile/wireless technology products and services around the state, nationally and globally
- Increase the productivity and profitability of every industry vertical in Michigan via the use of mobile and wireless technologies
- Create sustainable jobs and increased entrepreneurial opportunities in the state based on the use of these technologies

The Mobile & Wireless Challenge

Michigan Achieving Leadership

- Michigan can <u>LEAD</u> by being the first state to implement a strategy that is focused on facilitating growth by leveraging mobile/wireless technologies.

  This strategy should focus on investing in the following areas:

  - **Infrastructure** – a strong broadband infrastructure – enabling the growth of competition and common standards rather than over-regulation.
  - **Resources** – secure a distinct advantage by organizing programs that train our current workforce, prepare students to understand the impact of mobile technologies on their chosen field.
  - **Ideas** – Michigan must proactively facilitate open collaboration among companies, educational institutions and government
  - **Marketing** – Michigan must market our capabilities, resources and investments to the world

Meeting The Mobile & Wireless Challenge

- **Limited Window of Opportunity** – many states are targeting leadership position in this space

- **Central Resource Needed** – aligning business, government and education to work together is not a simple proposition **– this is MTAM's mission.**

- **This Effort Needs a "Home"** – developing programs and facilitating collaboration is key. MTAM's plans for a Mobile Technology Innovation Center would play a key role in executing strategic plans.

MTAM
Mobile Technology Association of Michigan

Meeting The Mobile & Wireless Challenge

- Recognize that the mobile and wireless ecosystem is a "big tent"
  - Everything in the emerging "Connected World" depends on an IP-addressable connection
  - At an industry level, we draw on the same limited design, engineering, and development talent pools
- Become engaged in the trade mission
  - Engage your State Senators and State Representatives
  - Advocate for the opportunity to develop connected solutions in the transportation, telecommunications, manufacturing, and healthcare verticals
  - Advocate for mobile and wireless solutions
  - **Engage MTAM for support**

Join Now to Build The Mobile and Wireless Industry

- Join the Mobile Technology Association of Michigan
  - Details at www.gomobilemichigan.org
- For more information
  - Contact Linda Daichendt: linda@gomobilemichigan.org
  - Contact Jeremy Eckhous: jeckhous@gomobilemichigan.org

Thank You!

THE NATIONAL CENTER FOR MANUFACTURING SCIENCES

Michigan Robotics Day

April 15, 2013

Phil Callhan

NCMS

NATIONAL CENTER FOR MANUFACTURING SCIENCES

The Ultimate Collaborative Network

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THE NCMS NETWORK

intel
Honeywell
UCLA
GE
BOEING
Battelle
The Business of Innovation
GENERAL DYNAMICS
Land Systems
BAYER
NASA
LOCKHEED MARTIN
GOODRICH
Fraunhofer
Rockwell Automation
Ford

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MICHIGAN GRID CELL™

ADVANCED ROBOTICS

TURNING ROBOTICS INTO PRODUCTS

- Crucial industry segment for American economic growth
- Spurring the widespread adoption of robotics technology
- Advocacy and collaboration for defense and civilian applications
- Robotics Technology Consortium – managed by NCMS

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MICHIGAN ROBOTICS DAY

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GOVERNOR RICK SNYDER

- STEM
- Autonomous Vehicle Licensing

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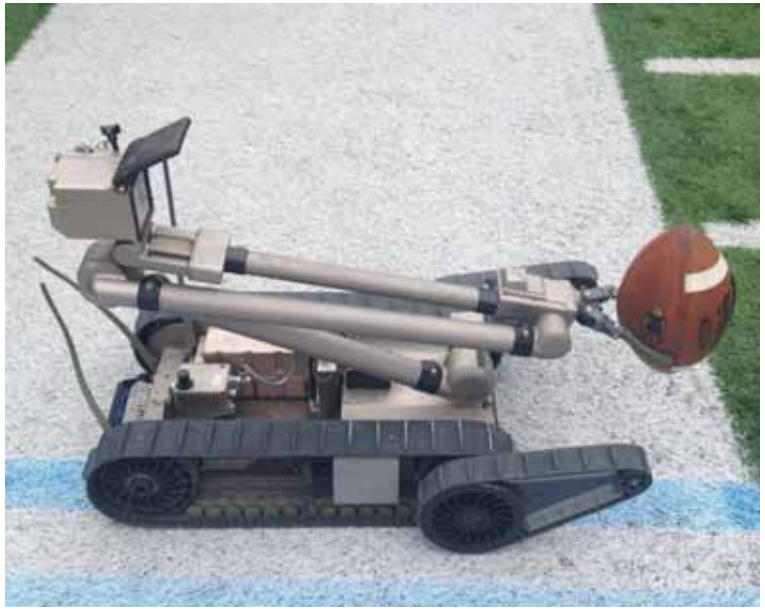
- 500 Attendees
- Industry, Education, Research, Government
- Third Year, Nationally Recognized
- Official Robotics Day, Recognized by State
- -Senator Levin, State Representative Slavens, State Senator Kowall

RECOGNITION



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SCIENCE, TECHNOLOGY, ENGINEERING, MATH (STEM)

- End Users
- Developers
- Integrators

- Industry
- Research
- Education
- Government

ECOSYSTEM OF ROBOTICS

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Rodney Brooks is founder, CTO, and Chairman of Rethink Robotics, a 2008 Boston-based startup. The company is developing a new class of industrial robot that will help keep manufacturing jobs in America. Rethink's robots are to current industrial robots what the PC was to the mainframe. The new robots are made in the USA.

Please join us on **Wednesday May 1, 2013** at NCMS Headquarters in **Ann Arbor, Michigan** for the next meeting of our Robotics Strategic Interest Group (SIG).
MORNING Advanced Automation AFTERNOON Autonomous Technologies Full Agenda
SIG members will participate in an industry roundtable during the morning session with **Rodney Brooks** of Rethink Robotics prior to his talk at the University of Michigan.

ROBOTICS SIG MEETING MAY 1

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Thank You

Phil Callihan

Michigan Robotics Day

Michigan Department of Transportation
Connected and Automated Vehicle Technology

Strategic Plan

MDOT
Michigan Department of Transportation

CAR
CENTER FOR AUTOMOTIVE RESEARCH

Reasons for the Update

- Account for new developments in technology
- Consider automated vehicle systems
- Reflect national ITS policies
- Align with current State priorities
- Sync with MDOT overall strategic plan

Turning Strategic Planning into Strategic Action

MDOT Mission Statements

MDOT's core departmental mission:
Provide the highest quality integrated transportation services for economic benefit and improved quality of life.

MDOT's ITS mission:
Develop and sustain a program at MDOT to improve integrated transportation system safety and operational performance using existing and innovative Intelligent Transportation Systems technologies for economic benefit and improved quality of life.

MDOT's connected and automated vehicle mission:
Support MDOT's core and ITS missions through strategic investment in research and deployment of connected and automated vehicle technologies.

Connected and Automated Vehicle Technology Vision Statement

- *Michigan is partnering with industry to enable efficient research, development, and deployment of connected and automated vehicle technology.*
- *Michigan is partnering with other states to assure coordinated research, development, and deployment across the United States.*
- *Test results provide clear and measurable evidence that connected and automated vehicle technology has the potential to increase transportation safety, mobility, security, and efficiency.*
- *Connected and automated vehicle projects are programmed into the annual budgeting of Michigan's transportation needs.*
- *Connected and automated vehicle technology has become an emerging industry with an entrepreneurial foundation that is central to Michigan's strong new information technology sector.*
- *Connected vehicle technology is becoming acknowledged as the biggest change in passenger and commercial transportation since the inception of the Interstate Highway System.*

Strategic Areas of Focus

Leadership	Safety	Customer Service
Partnerships	System Linkages	Efficiency

Strategic Areas of Focus					
Leadership	**Safety**	**Customer Service**	**Partnerships**	**System Linkages**	**Efficiency**
MDOT Departmental Strategic Goals					
Align the organization to carry out the MDOT mission, achieve the vision, and demonstrate the values.	*Move Michigan toward zero deaths through the incorporation of safety in all our transportation efforts.*	*Understand our customers' most important needs to achieve a more customer-focused agency that results in better service and lower cost.*	*Foster and sustain partnerships to optimize operations and achieve customer-centered results.*	*Provide cost-effective, integrated and sustainable transportation solutions.*	*Move people and goods through better customer-centered services and performance-driven decision-making.*
Connected and Automated Vehicle Technology Strategies					
Establish clear, measurable, and aligned performance goals regarding research and deployment of connected and automated vehicle systems technologies. Regularly evaluate connected and automated vehicle research and deployment program performance and adjust direction as necessary.	Engage public and private partners in cooperative strategies to improve transportation system safety through the utilization of connected and automated vehicle systems technologies. Prioritize MDOT connected and automated vehicle research and deployment efforts toward those with the highest probability of reducing fatalities.	Consider and incorporate input from MDOT costumers in the planning and implementation of connected and automated vehicle systems technologies research and deployment programs. Develop, track, and report metrics relating to the success and effectiveness of connected and automated vehicle research and deployment programs	Prioritize automated and connected vehicle research and deployment programs that contribute to sustainable economic development in Michigan.	Prioritize investments in research and deployment of connected and automated vehicle technologies that: • Improve asset management and life-cycle costs • Improve operations efficiency • Improve quality of life and wellbeing • Are environment-ally and economically sustainable • Support economic development	Pursue innovative connected and automated vehicle technologies that lead to efficient and effective investment in the transportation system. Prioritize research and development of connected and automated vehicle technologies that provide measurable improvements in operational efficiency.

Model Deployment Overview

Debby Bezzina
Senior Program Manager
University of Michigan Transportation Research Institute

Test Conductor Team

UMTRI

MDOT
Michigan Department of Transportation

PARSONS BRINCKERHOFF

Mixon Hill

HNTB

SAIC
From Science to Solutions

AAA

escrypt
Embedded Security

City of Ann Arbor

PURE MICHIGAN®
Michigan Economic Development Corporation

Texas Transportation Institute

Safety Pilot Model Deployment Objectives

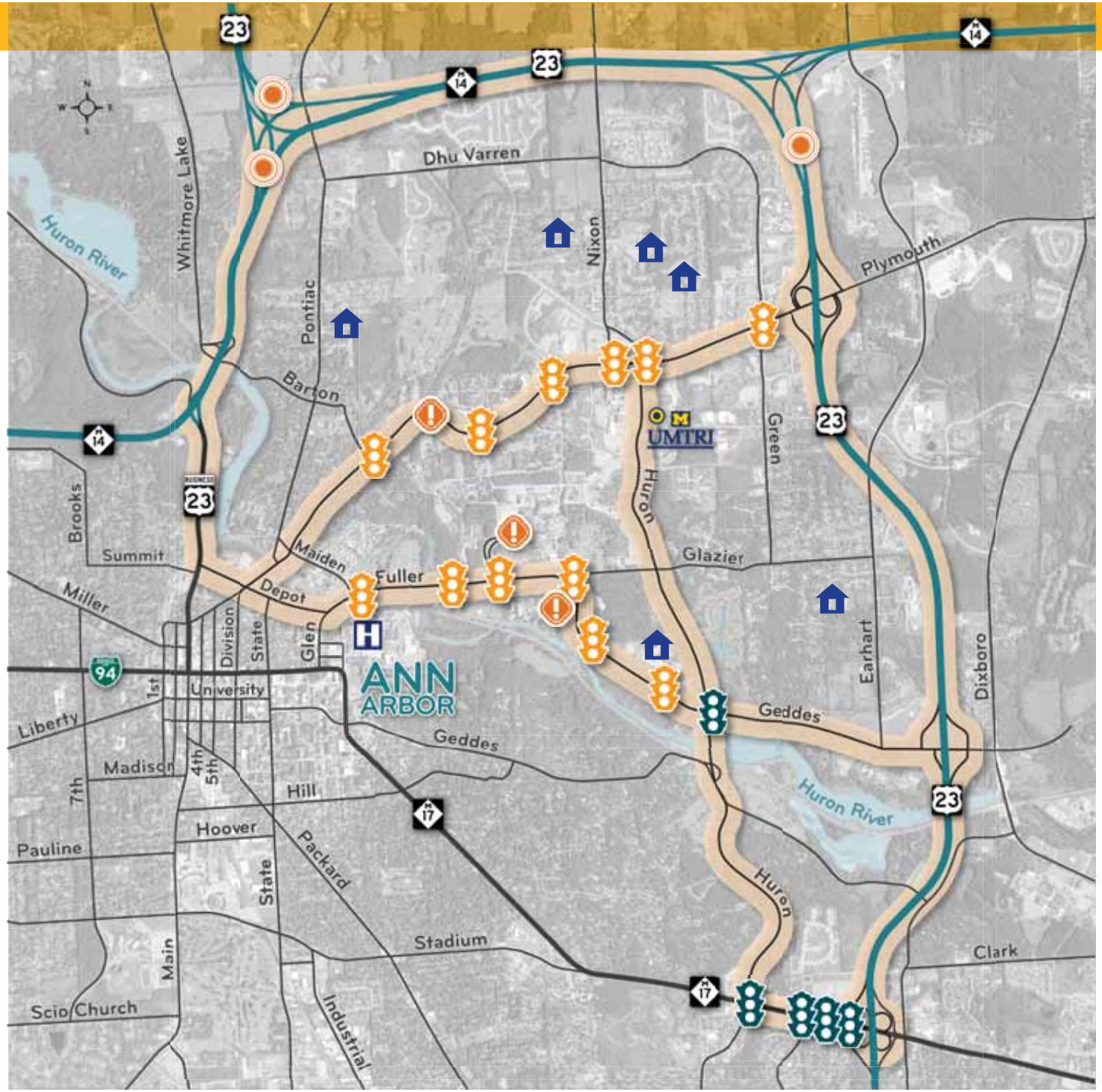
- Evaluate V2V operationally in a real world, concentrated environment
  - Applications
  - Security
- Gauge user acceptance
- Generate data to support estimates of safety system effectiveness
- Access the role for aftermarket devices in accelerating benefits
- Identify any additional research gaps

Safety Pilot Model Deployment Scope

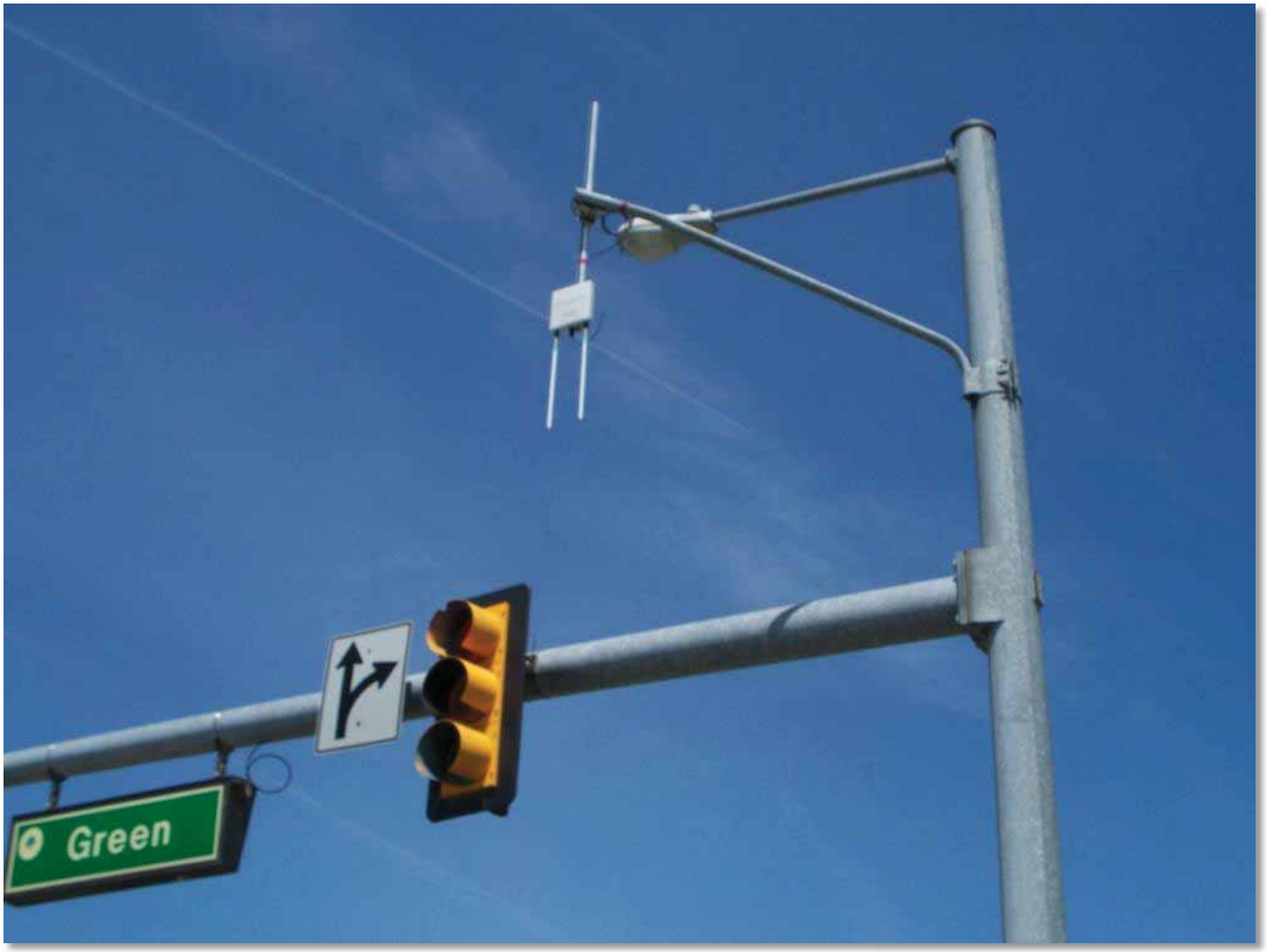
- 1-year deployment began August 21, 2012
- 2836 vehicles to be equipped
  - Passenger cars, trucks, and buses
- 73 lane-miles of roadway instrumented with 25 roadside-equipment installations
- Enormous coordination effort
  - City, County, State governments
  - The community (large employers and schools)
  - Transit agencies
  - Local businesses with vehicle fleets

Infrastructure Installations

- Strategy for site location
  - Capture all traffic operating in Northeast Ann Arbor, with focus on local commuters, and all other trips
- Roadside Equipment at:
  - 19 signalized intersections
    - 2 SPaT enabled corridors, 6 signals per corridor
  - 3 curves
  - 3 freeway sites
  - 1 at UMTRI
- Additional equipment installed at an intersection for radar-based pedestrian detection for transit application


Huron River
Whitmore Lake
Dhu Varren
Nixon
Plymouth
Pontiac
Barton
UMTRI
Green
Huron
Brooks
Summit
Maiden
Fuller
Glazier
Miller
Depot
Division
State
Glen
ANN ARBOR
Earhart
Dixboro
University
1st
Liberty
Geddes
Madison
4th
5th
7th
Hill
Hoover
Pauline
Packard
Huron River
Stadium
Clark
Main
Scio Church
Industrial

Successful IPv6 RSE Installation



Testing Status

- Completed Stage III Interoperability Testing in December
  1. Curve Speed Warning (CSW) reception from multiple RSE suppliers (Driver Alert only)
  2. 1609.2 Certificate Revocation List distribution to authorized vehicle.
  3. DSRC Message rejection based on the CRL.
  4. Device Misbehavior Report Generation and Transmission to the SCMS
  5. RSE Security Credential Boundary (WSA Verification)
- Completed testing of certificate downloads to moving vehicles in January

Vehicle Deployment Status

- Introduced vehicles to the Model Deployment
  - Completed RSD Kit Installations, trained drivers and introduced the vehicles
    - **SWRI – Con-Way**
    - **Battelle – Sysco**
  - CCV-IT
    - **4H**
    - **Rightaway**
  - Final release for TRP
  - Completed VAD Transit and Light/MD/HD fleets
  - Continued ASD installations
- 2nd round of Integrated Vehicle subjects

Aftermarket Safety Device (ASD)

- Model Deployment
  - 200 with ASD installed
  - 100 with ASD and DAS installed
- Proposed vehicle selection
  - based on greatest vehicle prevalence in 48105 zip code
  - vehicle CAN bus information

Honda Accord

Saturn Aura

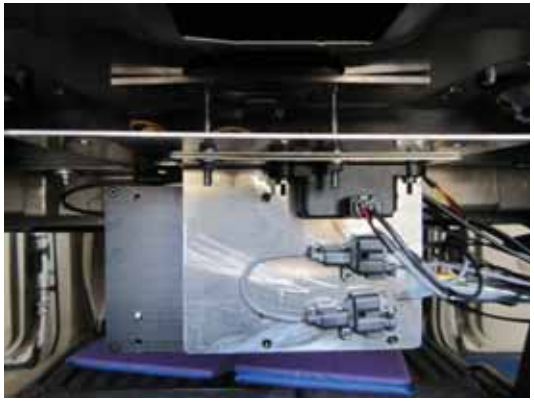
Chevrolet Malibu

Ford Fusion

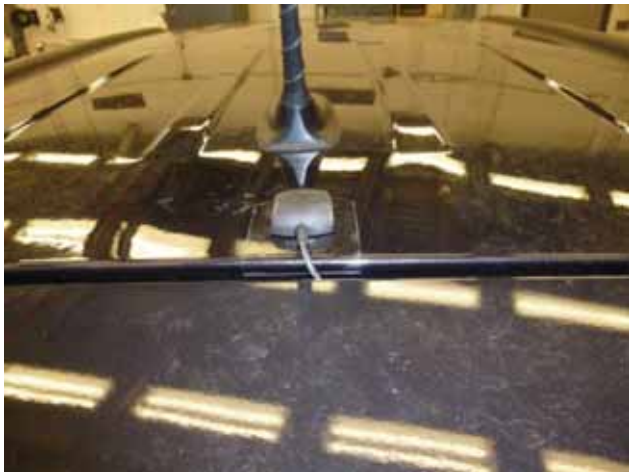
Honda Civic

Chevy Impala

ASD Installation with DAS



Example Power, Antenna, Speaker Installs



Vehicle and Device Installations

	Integrated Vehicles	Retrofit/ Aftermarket Devices	Retrofit/ Aftermarket Devices	Vehicle Awareness Devices
Passenger Cars	64	100	200	2263
Heavy Trucks	3	12	4	48
Transit		3		75
Light/MD Fleets				64
	67	115	204	2450

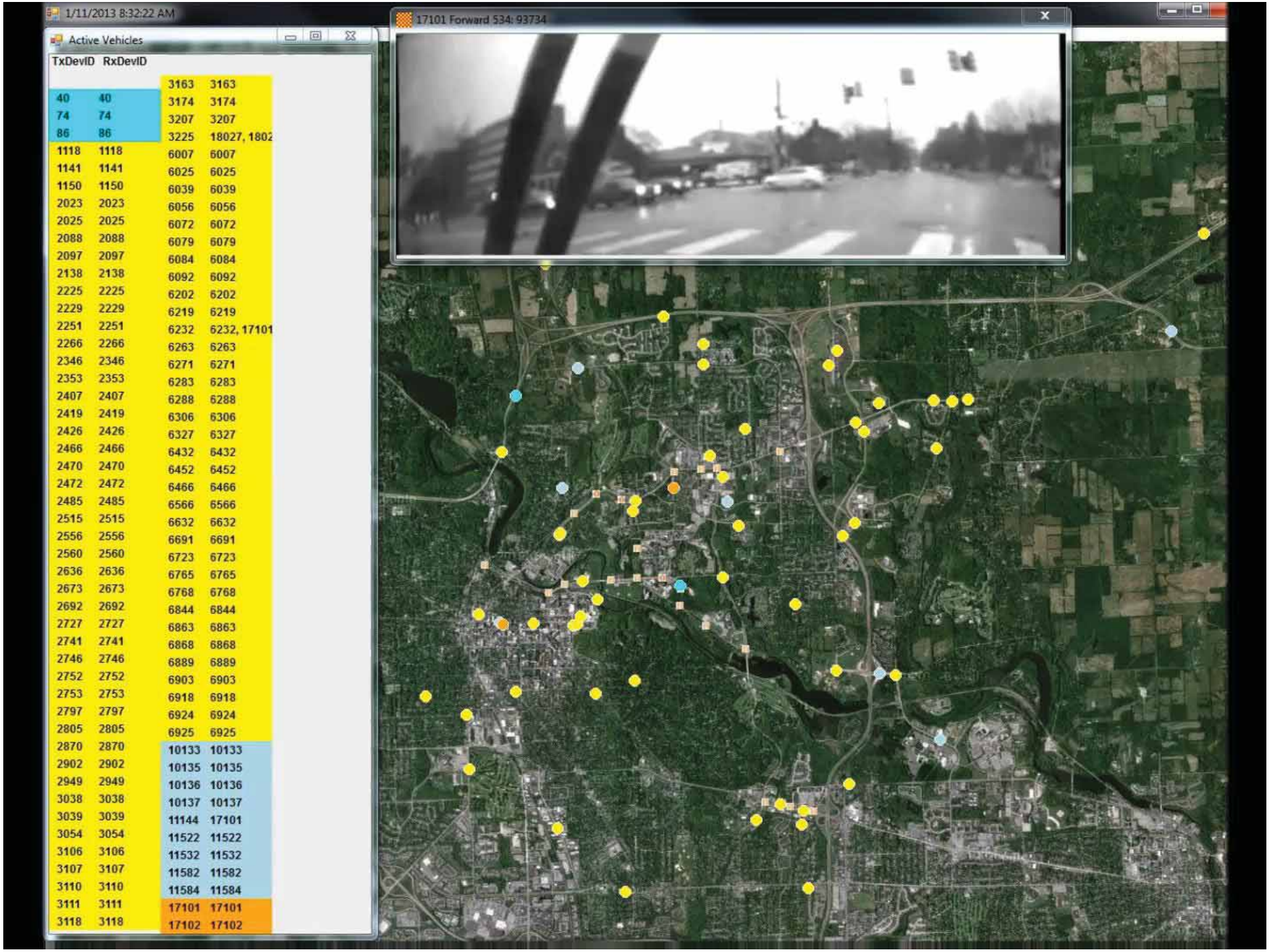
Data Acquisition System

Basic Messages Only

2800 vehicles deployed to date

Infrastructure Status

- All City of Ann Arbor sites are up and operational
- Still working through IPv6 issues on the three freeway sites
- Pedestrian detection equipment operational


1/11/2013 8:32:22 AM
Active Vehicles
17101 Forward 534: 93734
TxDevID RxDevID
40 40
74 74
86 86
1118 1118
1141 1141
1150 1150
2023 2023
2025 2025
2088 2088
2097 2097
2138 2138
2225 2225
2229 2229
2251 2251
2266 2266
2346 2346
2353 2353
2407 2407
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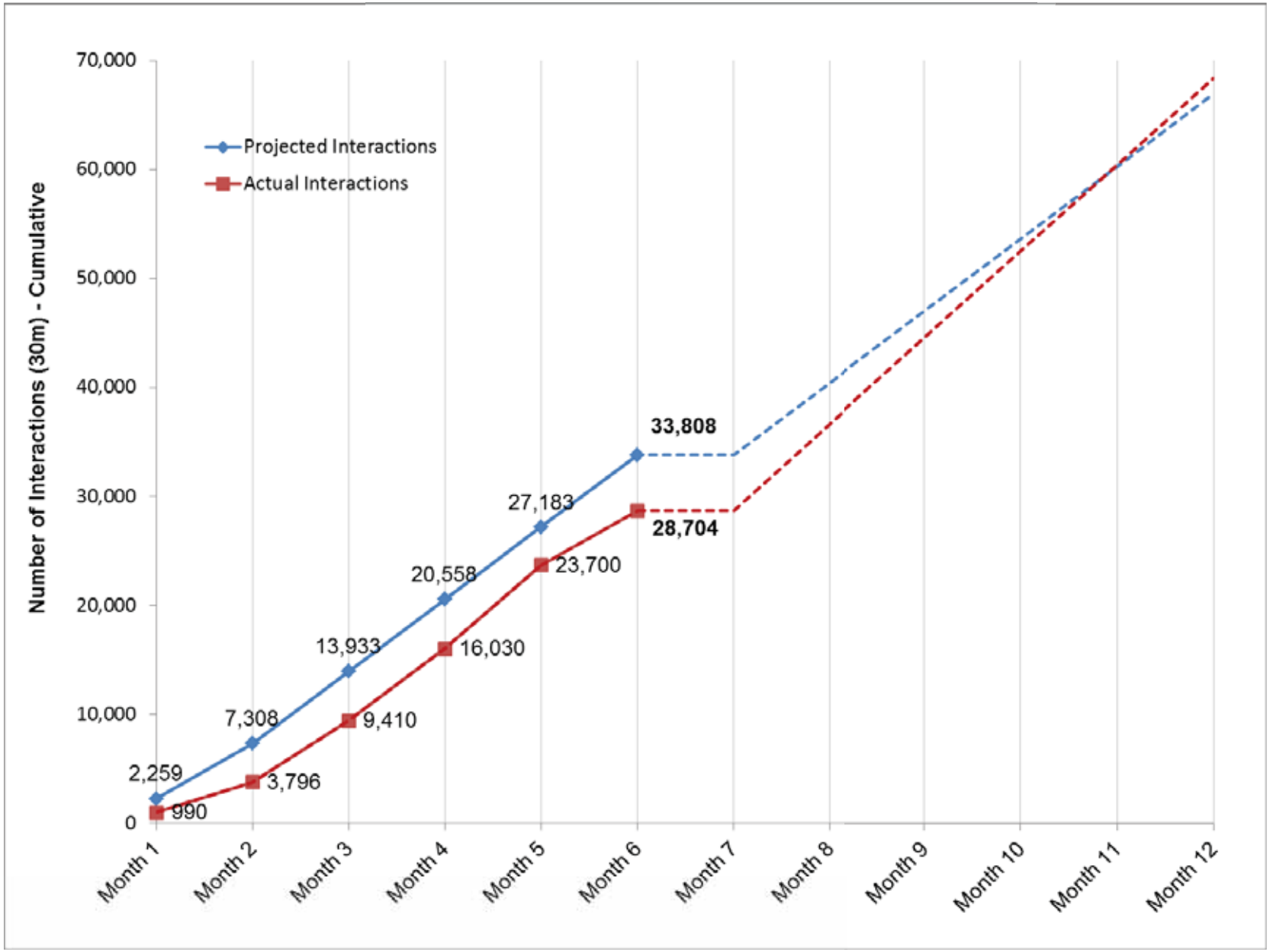
17102 17102

Interaction Results



Data Collected

- Six months of data collected
  - Seventh month of collection this week
- Data being transferred to Independent Evaluator
  - Conducted preliminary analysis of system capabilities on dataset
- Data transferred to Real-Time Data Capture Program
  - Archiving data for industry research – Research Data Exchange
- Estimated 50 Million BSM collected daily or approximately 200 TB of data at project end

Overall

- The Model Deployment has been an enormous, coordinated effort
- In spite of its size, the largest of its kind, the Model Deployment has been very successful
  - A significant number of challenges were successfully addressed
  - Valuable lessons have been learned
- Data is being delivered to the Independent Evaluator to support future U.S. DOT efforts

Stakeholder Utilization of SPMD Site

- Provide access to, and support for, use of the operating environment by all stakeholders
  - Develop other DSRC applications
  - Test/enhance DSRC technology
- UMTRI is working on several applications to be introduced before the end of SPMD
  - Motorcycle
  - Bicycle
  - Ice Warning System
  - Smart Work Zone
- Access is encouraged for all stakeholders

Global Symposium on Connected Vehicles and Infrastructure

May 14-16, 2013

Ann Arbor, MI

V2V & V2I for Auto Safety USA 2013

9-10 July 2013, Hotel Baronette, Novi, MI, USA

Organized by Telematics UPDATE

Prepare for Govt. Led Deployment of V2V & V2I Tech through Scalable Business Models to Create Value and Benefit for Customers

V2V & V2I for Auto Safety USA Conference

The Baronette Renaissance, Novi, MI, USA

9-10 July 2013

http://www.telematicsupdate.com/v2x

V2V & V2I for Auto Safety USA 2013

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Organized by Telematics UPDATE

Prepare for Govt. Led Deployment of V2V & V2I Tech through Scalable Business Models to Create Value and Benefit for Customers

- COMPLY WITH GOVERNMENT LEGISLATION
- DEFINE BUSINESS MODELS WITH SMARTPHONES, SUBSIDIES AND TRAFFIC
- CAPITALIZE ON GROWTH FROM THE EUROPEAN AND EAST ASIAN MARKETS
- INVESTMENT INTEREST IN V2X TECHNOLOGY
- INTEROPERABILITY USE CASES: EU & US
- SMARTPHONES AS THE CATALYST FOR V2V & V2I
- THE CASE FOR AUTOMATED AND AUTONOMOUS VEHICLES

150+ Senior Exec Delegates

30+ Speakers

20+ Sessions

12+ Hrs Networking

http://www.telematicsupdate.com/v2x

SAFETYPILOT

Questions?

dbezzina@umich.edu

www.safetypilot.us

UMTRI

2014 World Congress On Intelligent Transport Systems

Connected Vehicle Working Group

Jim Barbaresso, HNTB
Chair of the 2014 World Congress

21ST WORLD CONGRESS

DETROIT 2014

INTELLIGENT TRANSPORT SYSTEMS

Reinventing Transportation in our Connected World

Cobo Center

September 7-11, 2014

21ST WORLD CONGRESS
DETROIT 2014
INTELLIGENT TRANSPORT SYSTEMS

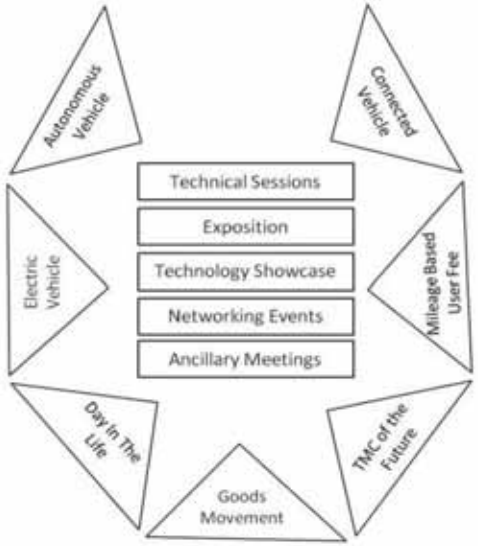
ITS World Congress Update

- Organizing Committee
  - All committees operational
- Honorary Committee
  - Governor Snyder has agreed to chair
  - Populating the Honorary Committee

21ST WORLD CONGRESS
DETROIT 2014
INTELLIGENT TRANSPORT SYSTEMS

ITS World Congress Update

- Technology Showcase
  - Most active committee
  - Longest lead time
  - Expressions of Interest
    - Seven received so far
    - Fourteen others in process



ITS World Congress Update

- Exhibit Hall
  - Cobo will be new and fresh
  - TMC on the exhibit hall floor
  - Race track inside the hall
  - Demonstration staging

ITS World Congress Update

- Venues for Social Events Identified
  - Opening Reception – Cobo Atrium
  - World Congress Gala – new Cobo Riverfront Ballroom (current Cobo Arena)
  - VIP Dinner – Henry Ford Museum
  - Board Dinner – DIA

Headquarters Hotel

- Detroit Marriott at the Renaissance Center

ITS World Congress Update

- Upcoming Meetings
  - Organizing Committee – May 22nd
  - World Congress Board of Directors – May 23rd and 24th
  - Agenda
    - Tokyo World Congress
    - Updates from Detroit and Bordeaux
    - Tour of Detroit Venues

ITS World Congress Update

- Promotion and Marketing
  - Efforts step up now that the ITS America Annual Meeting is over
  - Global outreach
  - Maximize regional draw
  - Social media campaign
  - Leverage partner resources
    - MEDC
    - DMCVB
    - Regional Chamber
    - ITS America
    - ITS Michigan
    - MDOT
    - Local Economic Development Groups
    - Affiliate organizations
    - Companies
    - Government agencies
    - Academic institutions

21ST WORLD CONGRESS
DETROIT 2014
INTELLIGENT TRANSPORT SYSTEMS

Tentative Timeline

- Website Opens – Spring 2013
- Exhibit Sales Launch – October 2013
- Papers Due – January 2014
- IPC Meetings – January and March 2014
- Registration Open – Spring 2014

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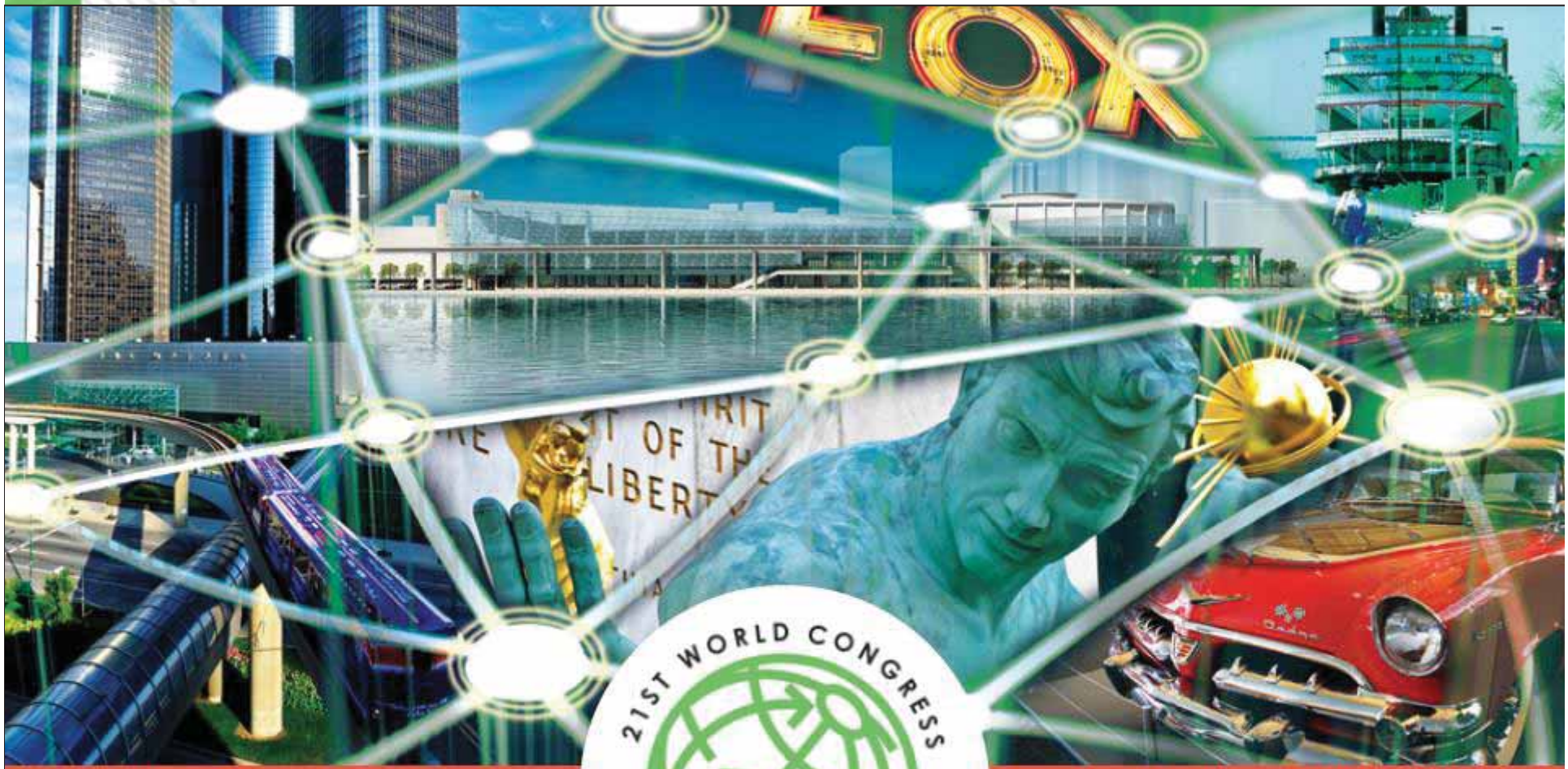
INTELLIGENT TRANSPORT SYSTEMS

Save the Date



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Thank you!

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INTELLIGENT TRANSPORT SYSTEMS