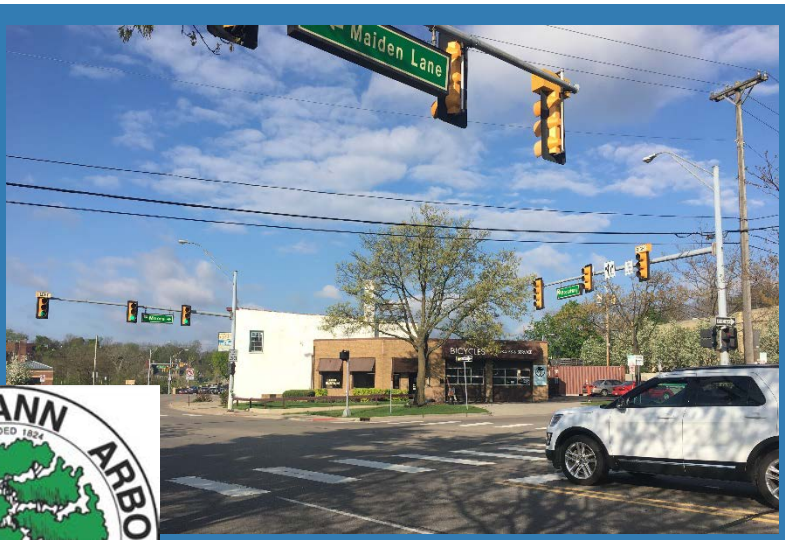


City of Ann Arbor Public Services/Engineering

Lower Town Area Mobility Study

RFP # 18-21

Charles Hart, P.E.
Vice President

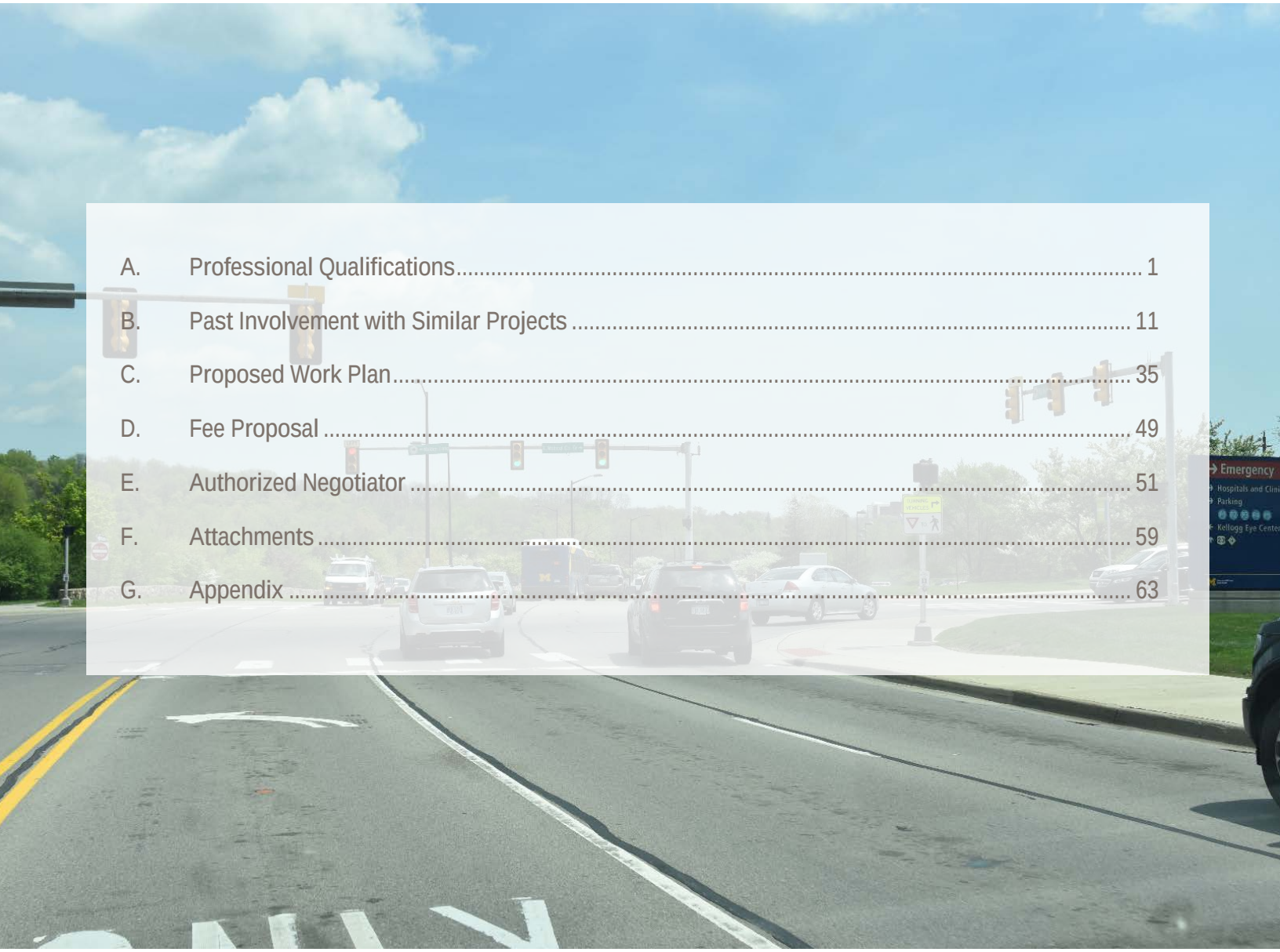
Prepared by:
HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915
555 Hulet Drive
Bloomfield Hills, MI 48302

MKSK DLZ HDR

ENGINEERING. ENVIRONMENT. EXCELLENCE.
248.454.6300 | hrcengr.com

This page is intentionally left blank.

TABLE OF CONTENTS



This page is intentionally left blank.

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

MAILING: PO Box 824
Bloomfield Hills, MI 48303-0824

SHIPPING: 555 Hulet Drive
Bloomfield Hills, MI 48302-0360

PHONE: 248-454-6300
WEBSITE: hrcengr.com

June 1, 2018

City of Ann Arbor
c/o Customer Service
301 East Huron Street
Ann Arbor, Michigan 48107

Attn: Mr. Luke Liu, P.E., PTOE

Re: Lower Town Area Mobility Study
RFQP No. 18-21

HRC Job No. 20180418

Dear Mr. Liu:

Hubbell, Roth & Clark, Inc. (HRC) is pleased to submit this proposal for professional services for the Lower Town Area (LTA) Mobility Study. We acknowledge receipt of Addendum No. 1 (May 24, 2018) including all attachments in this proposal. We have assembled an experienced team of transportation engineers and planners to complete this transformative project for the City of Ann Arbor. As the Prime Consultant, HRC brings invaluable local experience and leadership working closely with City staff on challenging projects, especially those with substantial public engagement and many competing interests. HRC brings a unique combination of expertise and communication skills that has successfully proven to work through technical and challenging elements, while understanding others' needs and priorities, and communicating with compassion in ways that are clear and understandable.

HRC's team includes MKSK Studios, HDR, and DLZ. HRC will provide project management, traffic engineering, and safety services. MKSK Studios will lead the public engagement and provide transportation planning services. HDR will provide transportation demand modeling and transit expertise for the project team. DLZ will provide non-motorized facility evaluation and roundabout analysis.

The LTA is an area with many varied land uses, primarily residential, with schools, medical facilities, parks, and parking structures. The LTA is experiencing growth in population, jobs, and new developments. With growth comes increasing challenges to maintain and improve mobility for all transportation network users: pedestrians, transit riders, bicyclists, and motorists.

The ultimate plan will provide recommendations to best use the available land to move all users safely and efficiently through the LTA.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

Charles E. Hart, P.E.
Vice President

Colleen Hill-Stramsak, P.E., PTOE
Associate — Transportation

This page is intentionally left blank.

A. Professional Qualifications

CONTACT INFORMATION

Hubbell, Roth & Clark, Inc.
555 Hulet Drive
Bloomfield Hills, Michigan 48302
(248) 454-6300 | Fax: (248) 454-6312

Charles E. Hart, PE, Vice President
Direct: (248) 454-6301
Cell: (248) 425-4348
chart@hrcengr.com

PRINCIPAL OF THE FIRM

Charles E. Hart, P.E., Vice President, will serve as the Principal in Charge for LTA Mobility Study. We will provide Transportation Engineering Services out of HRC's Bloomfield Hills office where Mr. Hart and HRC's Transportation Engineering Department are primarily located.

INTRODUCTION

HRC was founded on developing innovative engineering solutions for growing infrastructure and wastewater handling needs. We utilize industry-leading approaches, materials, and technologies to ensure infrastructures are more resilient. We have had the good fortune of serving Michigan communities for over 100 years on a wide range of projects. This longevity has been accomplished due to the strength of more than 250 engineers, scientists, architects, surveyors, and technicians. Our personnel keep focus on our clients' desired outcomes, addressing project challenges with superior solutions. Our client-centric processes identify, communicate, track, document, and measure our client's expectations from the beginning of the project until the end.

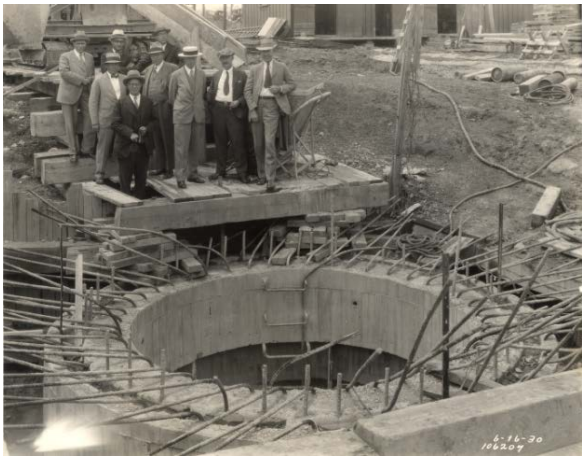
At HRC, we consider our clients to be a major part of our culture. Our relationships with each one is worth more than the services we sell. Everything we build is developed to address their needs. We work alongside our clients to co-develop solutions that create trusted interactions, surpassing expectations and achieving *engineering*, *environment,* and *excellence* requirements.

- Engineering. HRC is a full service, multi-disciplined firm. As providers of engineering services to public and private clients, we strived to function as an extension of our client's engineering department. Our personnel can address specialized projects and participate on general projects that exceeded staffing capabilities. In addition, our materials testing laboratory is well equipped to manage typical owner quality assurance testing, which enhances HRC's ability to coordinate with third-party testing services necessary for design and construction projects.
- Environment. At HRC, we offer a friendly, diverse work place environment with opportunities for professional growth and development. Our staff are encouraged to participate in volunteer organizations, making our communities better places to live and work. As an example, HRC employees take a "Walk on the Wild Side" with the Clinton River Watershed Council at the Detroit Zoo every year. HRC employees also participate in a rewarding Tree Planting Event in the City of Detroit and are active in numerous highway clean-up activities. These events and others provide a great opportunity to help beautify and give back to the community.

- Excellence. HRC's innovative design solutions have garnered numerous industry awards throughout our rich history. HRC is proud of its many engineering achievements received from the American Council of Engineering Companies (ACEC), American Society of Civil Engineers (ASCE), American Public Works Association (APWA), and other professional organizations for innovative and cost-effective projects.

HRC is proud of the unwavering service to our clients, and we look forward to serving your needs for Transportation Engineering and Planning Services.

FIRM BACKGROUND



HRC is a 103-year old, privately held, Michigan-headquartered consulting engineering firm that specializes in infrastructure, the environment, and enhancing clients' physical facilities. HRC is organized as an S-Corporation, licensed in the State of Michigan. HRC has been involved in the design and construction of many iconic Michigan projects that have supported the growth and prosperity of our state.

The great majority of HRC's resources are focused on clients and projects, rather than securing the next acquisition. We are hands-on problem solvers. HRC is, by design, nimble enough to tackle small quick turn-around assignments, as well as large complex projects, studies and planning efforts.

HRC is an MDOT prequalified firm with 43 prequalification classification categories, which include:

- Design – Roadway
- Design – Traffic: Capacity & Geometric Analysis
- Design – Traffic: Safety Studies
- Design – Traffic: Signal Operations Complex

HRC is also a multi-disciplined consulting engineering firm with capabilities in the following areas:

Roads & Bridge Design	Site/Civil Engineering
Surveying	Traffic Engineering
Environmental Engineering	Wetlands/Watershed Management
Landscape Architecture	Structural Engineering
Process Engineering	Instrumentation & Control
GIS	Asset Management
Water Transmission and Treatment	Construction Services/Material Testing
Industrial Facilities Design	Wastewater Treatment Plants
Sanitary Sewer Systems	Combined Sewer Overflow Retention & Treatment
Easement/Right of Way Services	Architectural Services

REPUTATION FOR PROFESSIONAL INTEGRITY AND COMPETENCE

HRC has been recognized as a Top Work Place by the *Detroit Free Press*. HRC is also a Top 50 Trenchless Technology Design Firm, and an ENR Top 500 Design Firm. HRC received the honor of being named one of the Cool Places to Work in Michigan by *Crain's Detroit Business* magazine.

In the over 100 years HRC has been in business and considering the tens of thousands of projects we have worked on, we are not aware of a single legal claim that has been made against our ethics or integrity, nor has HRC ever experienced bad publicity for such behavior.

It is the mission of HRC to consistently provide our clients with services that meet or exceed their expectations, at a fee that is reasonable and competitive and that produces a profit sufficient to ensure the stability, development, and growth of our firm.

To accomplish our mission, every employee must constantly strive to uphold these values:

- To always deal honestly and fairly
- To consistently improve our methods, techniques, and knowledge to better serve our clients' needs
- To give our clients full value on every service provided
- To always handle our clients' requests promptly
- To accept our clients' complaints with patience, calmly and courteously, and make a full and satisfactory explanation, exercising tact at all times
- To take a personal interest and initiative in meeting our clients' needs within the realm of our professional activity
- To guard and protect confidential client information

ACHIEVEMENTS

Award-Winning Geddes Road at Gallup Park

HRC's awards include RCOC's Orion Bridge Replacement in Oakland Township, which earned the APWA/Michigan 2014 Project of the Year Award and an ACEC Award; Independence Township & RCOC's Sashabaw and I-75 Interchange Improvements Project, which earned the APWA/Michigan 2015 Project of the Year Award and Ann Arbor's Geddes Road Reconstruction, which earned the 2016 APWA/Michigan Project of the Year Award.

MKSK

FIRM MAIN OFFICE

MKSK
462 South Ludlow Alley
Columbus, Ohio 43212

BRANCH OFFICE LOCATION WHERE WORK WILL BE PERFORMED

MKSK
4219 Woodward Avenue, Suite 305
Detroit, Michigan 48291

FIRM OPERATION: Limited Liability Company (Partnership)

FIRM LENGTH IN EXISTENCE: 27 Years

COMPANY PROFILE

MKSK is a multi-disciplinary planning, urban design, and landscape architecture firm that offers award-winning transportation and community planning, complete streets design, streetscape enhancements and public space design and creative solutions to a diversity of challenges through our offices in Michigan, Ohio, Indiana, Kentucky, and South Carolina. MKSK approaches design with a clear understanding that each site is unique and has economic, social, environmental, historical, and cultural influences which should be explored through thoughtful, context sensitive design. MKSK leads a creative planning and design process that provides vibrant public spaces while accommodating a variety of community and civic uses. MKSK understands that properly programmed, planned and designed streets and public spaces can be the catalyst for economic investment and redevelopment, revitalizing a neighborhood, and increasing physical and social connections. Understanding of construction process, costs, and maintenance operations informs our design. MKSK is committed to sustainable design and green infrastructure as an integral part of our planning and design process. Public involvement and engagement is a fundamental part of our community-based urban planning and design approach. The success of the public visioning and design process is a critical step in building understanding, support, and ownership of focus areas that will ultimately lead to effective implementation.

Other Office Locations:
Columbus, Ohio; Indianapolis, Indiana; West Lafayette, Indiana; Covington, Kentucky; Lexington, Kentucky; Greenville, South Carolina

PRIMARY CONTACT:

Brad Strader, AICP, PTP, Principal
MKSK, 4219 Woodward Avenue, Suite 305, Detroit, Michigan 48291
bstrader@mkskstudios.com
Office: (313) 652-1101
Direct: (248) 867-8942

DLZ MICHIGAN, INC.

DLZ, a Michigan Corporation, is a full-service, multidisciplinary, Minority-Owned Business Enterprise (MBE) that has been providing complete engineering, architectural, environmental, planning, construction, and survey services to both public and private sector clients since 1916. DLZ is an American success story, having graduated in 1984 from the 8(a) Small Disadvantaged Business Program. Since then, DLZ has grown to be one of the most reliable and experienced professional consulting firms in the Midwest.

AUTHORIZED NEGOTIATORS

Manoj Sethi, P.E.
President
Email: msethi@dlz.com

Vicki L. Briggs, CPA
Vice President
Email: vbriggs@dlz.com

OFFICE LOCATIONS

DLZ operates five full-service offices in Michigan—Lansing, Kalamazoo, Detroit, Melvindale, and Saint Joseph. DLZ also has offices in Indiana, Ohio, Illinois, Kentucky, Wisconsin, and Pennsylvania. Each office is equipped with intranet services and e-mail capabilities allowing for real-time transfer of data and project information, in addition to communication systems to enable production and transfer of documents between offices.

Lansing Office
1425 Keystone Avenue
Lansing, Michigan 48911
Phone..... (517) 393-6800
Fax..... (517) 272-7390

Kalamazoo Office
535 South Burdick, Suite 248
Kalamazoo, Michigan 49007
Phone..... (269) 553-0640
Fax..... (269) 553-0641

Detroit Office
155 W. Congress, Suite 605
Detroit, Michigan 48226
Phone (313) 961-4040
Fax..... (313) 961-4086

Melvindale Office
4041 Martel Street
Melvindale, Michigan 48122
Phone..... (313) 383-3216
Fax..... (313) 383-3256

Saint Joseph Office
505 Pleasant Street, Suite 204
Saint Joseph, Michigan 49085
Telephone.....(269) 281-0744
Fax.....(269) 281-0766

COMMITMENT TO MBE'S AND WBE'S

We are very proud of our heritage and continue to place emphasis, in the procurement of subcontractors and suppliers, on small disadvantaged businesses (DBEs), MBEs, and women-owned businesses (WBEs). DLZ is committed to the creation, growth and expansion of DBEs, MBEs, and WBEs and currently serves as a mentoring firm for other minority firms through the Michigan Minority Business Development Council.

AWARD WINNING

Consistently ranked as one of Engineering News-Record (ENR)'s Top 150 Design Firms, DLZ's continual growth and success is a testament to our work quality and client satisfaction. Our commitment to excellence has resulted in DLZ being ranked by Engineering News Record as the No. 1 Design Firm of the Year in the Midwest. We firmly believe that these ratings come from only one source, the trust and confidence our clients have placed in our abilities.

HDR Michigan, Inc. (HDR) is based at 5405 Data Court, Ann Arbor, Michigan 48108. The project will be led by key transportation professionals in Ann Arbor and supported by modeling specialists in the Omaha, NE office. HDR is a corporation licensed to operate in the State of Michigan.

As a global firm with a local presence, HDR has nearly 10,000 staff in 225 locations around the world, including our local Ann Arbor office of over 100 employees. HDR is an employee-owned company that has provided comprehensive engineering services across the United States and abroad since 1917 and from our Ann Arbor office since 1939.

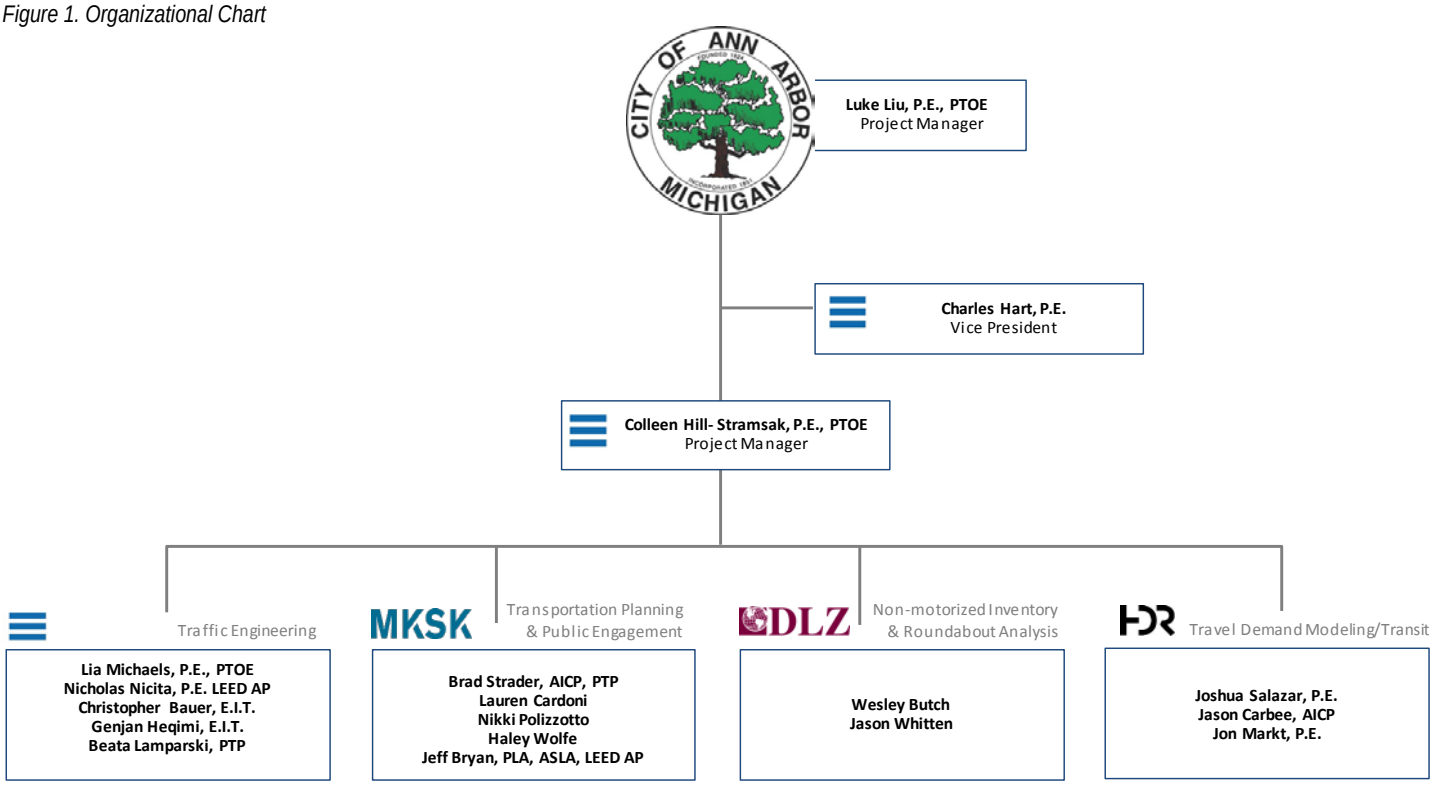
HDR is a leader in providing specialized traffic engineering and transportation planning services. We excel in providing clients with innovative and effective solutions that improve the capacity and safety on transportation networks. These specialized services include travel demand modeling, multi-modal transportation network analysis, dynamic traffic assignment and simulation/animation, as well as other related services. We understand that all users of the transportation network need to be accommodated and have a safe system for their travel. HDR has performed in-depth reviews and analysis of transit, bicycles and pedestrians to determine the impacts that changes in traffic have on those modes and vice versa. We have completed these reviews utilizing methods from detailed simulations to qualitative planning assessments.

Our strategically selected travel demand modeler, Jason Carbee, previously worked with WATS and the City of Ann Arbor on the Ann Arbor Transit Connector study utilizing mode choice elements of the WATS Travel Demand Model for a wide range of multi-modal alternatives and will be a proficient partner to re-engage with the City and WATS for exploring options on this project.

HRC's team includes MKSK Studios, HDR, and DLZ. HRC will serve as the lead firm and will provide project management, traffic engineering, and safety analysis for the project. MKSK will lead the public engagement and provide transportation planning services. HDR will provide transportation demand modeling and transit expertise for the project team. DLZ will provide non-motorized facility evaluation and roundabout analysis.

Figure 1. shows the organizational chart with the key staff for each firm. Resumes of all key staff can be found in the Appendix, Section G.

Figure 1. Organizational Chart



Charles (Chuck) Hart, P.E., HRC — Mr. Hart is a Partner with HRC and is responsible for projects within Ann Arbor. His expertise enables him to assess, identify and provide innovative solutions for project challenges and opportunities. Chuck will ensure that the outcome of the study meets the needs and standards of the Ann Arbor community. He will also assist with public engagement and technical aspects as-required throughout the project.

Colleen Hill-Stramsak, P.E., PTOE, HRC — Colleen will serve as the Project Manager. She has 18 years of transportation engineering experience with a wide range of municipal and governmental clients. She manages the traffic engineering department and has served as project manager on four road diet studies. She will manage all efforts for the project, attend all the progress meetings and public engagement events, and will be the primary contact person for Ann Arbor.

Lia Michaels, P.E., PTOE, HRC — Lia has 12 years of transportation engineering experience and has provided on-going engineering support for the cities of Grand Rapids, Rochester Hills, and Kalamazoo. Lia is proficient in Highway Capacity Software, Synchro/SimTraffic, HCS, and RODEL and will lead the micro traffic analysis effort on this project.

Beata Lamparski — Beata has 20 years of experience in crash analyses for non-freeway signing projects, road safety audits, RRR projects, design exceptions, and road diets. With Mr. Heqimi, she will conduct a safety assessment for this project.

Nicholas Nicita, P.E., HRC — Nick has 10 years of engineering experience and is actively working on several signal optimization studies. Nick is very familiar with the project area as he has worked on three different traffic impact studies on behalf of the city. He will be involved the Synchro models and capacity analysis for the project.

Chris Bauer, EIT, HRC — Chris has 4 years of transportation engineering experience. He will be responsible for data collection using Miovision technology to capture traffic classifications, especially pedestrians and bicyclists. He will also assist in traffic analysis.

Gentjan (Genti) Heqimi, EIT, HRC — Genti has considerable expertise in applying GIS to crash analysis. He will be presenting a paper at the ITE Annual Meeting in Minneapolis in August 2018 on this subject. Genti will work with Ms. Lamparski on Safety Assessment to determine hot spots and emphasis areas. He will also assist with data collection.

MKSK's part of the team includes two experienced land use/transportation planners, two landscape architects, and an engagement specialist. Brad Strader will lead the MKSK group. Brad has worked in several projects in Ann Arbor. Brad is an ITE certified Professional Transportation Planner (PTP). He is known throughout Michigan as a leader in Complete Streets and linking transportation with land use. He serves as the ongoing mobility advisor to the City of Birmingham's Multi-Modal Board and for transportation topics as part of the MEDC's Redevelopment Ready Community Program. He is a co-author and instructor for several transportation publications, and currently serves as the Vice-Chair of the ITE Task Force to develop a new handbook for Multi-Modal Transportation Impact Assessments using People Trips, instead of just vehicle trips. Brad will be involved in most meetings with stakeholders and involved in the development of alternatives.

Brad will be supported by four key staff. Lauren Cardoni is an urban planner/transportation planner. Lauren has six years of experience on a wide variety of transportation projects. Nikki Polizzotto will be involved in the development and delivery of the public engagement effort. Nikki has been involved in engagement efforts for several transportation projects in Los Angeles working with citizens who ordinarily did not have a strong voice on decision-making. She is currently involved in several engagement activities in the Traverse City area, River Rouge and Lansing. Nikki is an Ann Arbor resident and is thus very accessible to attend meetings on short notice. Haley Wolf and Jeff Bryan will assist in several aspects of the project: non-motorized options, streetscape concepts to support walkability and assessment of the vacant land and redevelopment sites. Haley is a Project Designer that has been involved with several similar transportation mobility projects. In addition, she is currently working on design concepts for several Ann Arbor schools and will help with the interaction with the school district. Jeff is a Professional Landscape Architect also available to assist with any streetscape related concepts based on his experience with many street and trail design projects in Ohio, Kentucky, and Michigan.

Joshua Salazar, PE, HDR, will serve as HDR's Project Manager and will work out of HDR's Ann Arbor, Michigan office location. Josh serves in this role for Michigan Department of Transportation (MDOT) and local municipal projects. Joshua is an experienced project manager with over 13 years in both the public and private sector leadership. Mr. Salazar has led large multi-modal corridor projects and program management tasks through the production of design alternatives, roadway plans, typical sections, capital cost estimates, evaluation of traffic and environmental impacts, and comprehensive stakeholder outreach.

Jason Carbee, AICP, HDR, will serve as the lead Travel Demand Modeler. Jason is a Senior Transportation Planner with 20 years of transportation forecasting and model development experience. His work on travel model development and traffic forecasting across the country has been extensive and includes work on more than 40 travel models. Jason's recent relevant model development experience includes serving as Project Manager for MAPA's on-call traffic forecasting contract, travel model enhancement task lead on the I-79 Access Study (Morgantown, WV) traffic model enhancements, and as task manager on travel model enhancements for the Metro Area Travel Improvement Study in the Omaha, Nebraska area. Jason will work out of HDR's Omaha, Nebraska office location.

Jonathan Markt, PE, HDR, will also serve as a Travel Demand Modeler. Jon is a traffic and transportation planner specializing in transportation planning and analysis and primarily works on developing transportation planning, safety and operations models to support state DOT's and MPO's in a variety of software platforms (Citilabs Cube Voyager/Avenue, Caliper's TransCAD/TransModeler and PTV's Vissim). He is highly skilled in travel demand model development and forecasting, having worked on dynamic traffic assignment (DTA) models for multiple Midwestern regions and presents at national conferences regarding innovations to transportation planning and modeling. Jon also has expertise in the area of data collection for transportation planning studies. Jon will work out of HDR's Omaha, Nebraska Office location.

Wesley Butch, DLZ. Wes will oversee the analysis for nonmotorized facilities and roundabout feasibility. He will also advise the rest of the project team regarding proposed improvements at the Fuller Road/Maiden Lane/EMCD intersection, as he is the Consultant Team Project Manager for that ongoing study. Wes has been involved with many dozens of complex traffic and road improvement projects. His transportation planning expertise, extensive knowledge, and experience span numerous disciplines including nonmotorized facilities, roundabout design, traffic analysis, signal analysis, transit facilities, road concept designs, construction cost estimating, funding source investigation, public involvement, community and stakeholder engagement, access management and land use planning, preparation of plans and technical reports, environmental clearance documentation, and traffic signal design. He has extensive experience planning and implementing inclusive community engagement programs for transportation projects, including many that were controversial.

Jason Whitten, DLZ, will serve as a Transportation Planner for this project and will work on the analyses for nonmotorized facilities and roundabouts. He has 17 years of experience and has been involved in more than 35 transportation planning projects for local agencies. His transportation expertise encompasses numerous disciplines including nonmotorized facilities, roundabouts, traffic analysis, signal analysis, capital planning, transit facilities, road design, construction cost estimating, funding source investigation, public involvement, community and stakeholder engagement, access management and land use planning, preparation of plans and technical reports. Jason has been involved with several city-wide transportation studies, complex corridor studies, and multi-modal studies.

This page is intentionally left blank.

B. Past Involvement with Similar Projects

The following references and project experience forms show the depth and breadth of experience of the firms involved.

REFERENCES

HRC enjoys a very successful record of long-term clients, which reflects the level of service we strive to provide every day. In accordance with the RFP, we have provided a sampling of our recent work experience with similar projects. Listed below are references from current municipal/agency clients we have provided engineering services for that are comparable to the LTA Mobility Study. We invite you to contact our references to learn more about HRC, MKSK, HDR, and DLZ and our staff members proposed in this submittal.

Municipality/Client	Contact Information	Project Title
CITY OF GRAND RAPIDS	Chris Zull, P.E. City of Grand Rapids 509 Wealthy, S.W. Grand Rapids, Michigan 49503 (616) 456-3065 czull@grcity.us	As-Needed Traffic Engineering, Safety and Planning
CITY OF MONROE Michigan	Patrick M. Lewis, P.E. Director of Engineering and Public Services City of Monroe 120 E. First St Monroe Michigan 48161 (734) 384-9124 patrick.lewis@monroemi.gov	M-125 Traffic Study
Howell MICHIGAN Every Day is an Event!	Shea Charles City Manager City of Howell 611 E. Grand River Howell, Michigan 48843 (517) 546-3502 CityManager@CityofHowell.org	As-Needed Traffic Engineering, Safety and Planning

MKSK

REFERENCES

Firm/Agency Name: Southeast Michigan Council of Governments (SEMCOG)
Address: 1001 Woodward Ave #1400, Detroit, Michigan 48226
Phone: (313) 324-3323
Project Tile: Downtown Detroit Multi-Modal Transportation Plan
Contact Person: Alex Bourgeau, Multi-Modal Planner

Firm/Agency Name: Capital Area Transportation Authority (CATA)
Address: 4615 Tranter Street, Lansing, Michigan 48910
Phone: (517) 394-1100
Project Tile: Shaping the Avenue Corridor Plan
Contact Person: Bradley T. Funkhouser, Deputy CEO

Firm/Agency Name: Regional Transit Authority of Southeast Michigan
Address: 1001 Woodward Avenue, Suite 1400, Detroit, Michigan 48226
Phone: (248) 644-1800
Project Tile: Michigan Avenue TOD Corridor Study
Contact Person: Tiffany Gunter, Former Southeast RTA Deputy Director now with City of Birmingham,

Firm/Agency Name: Lexington-Fayette Urban County Government
Address: 200 E. Main Street, Lexington, Kentucky 40507
Phone: (859) 608-5183
Project Tile: Lexington Downtown Streetscape Master Plan & Implementation
Contact Person: Harold Tate, Former Executive Director of the Lexington Downtown Development Authority
Email: haroldrtate@gmail.com

Firm/Agency Name: The Ohio State University
Address: PPARE, Gateway Building D, 1534 N. High Street, 2nd Floor, Columbus, Ohio 43201
Phone: (614) 292-3673
Project Tile: John H. Herrick Drive Extension
Contact Person: Steve Volkmann, University Landscape Architect

REFERENCE

Mr. Dennis Stachewicz
Director of Planning and Community Development
Email: dstachewicz@mqtcty.org
Phone: (906) 225-8377

City of Marquette
300 W. Baraga Avenue
Marquette, Michigan 49855

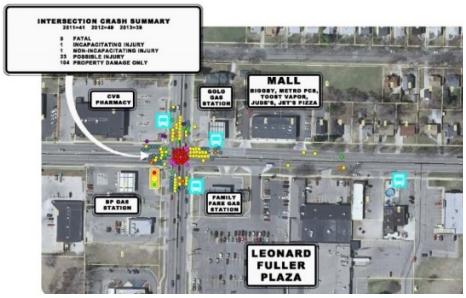
REFERENCES

Noodle Companies
West Farm/South Farm Development Traffic Study and Design
Omaha, Nebraska
Colin Bagwell
Phone: (402) 496-1616
Email: cbagwell@noodlecompanies.com

NYCDOT New York Department of Transportation
2nd Avenue Bus Rapid Transit Multimodal and Multi-Resolution Simulation
Amir Rasty
Phone: (212) 839-6947

MAPA Metro Area Travel Improvements Study
Metropolitan Area Planning Agency | Nebraska Department of Roads (NDOR) | Omaha-Council Bluffs Metropolitan Area
Greg Youell
Executive Director
Phone: (402) 444-6866

City of Grand Rapids
Traffic Engineering Support



Owner
City of Grand Rapids
509 Wealthy, S.W.
Grand Rapids, Michigan 49503
Mr. Chris Zull, P.E.
Traffic Safety Manager
(616) 456-3065

HRC Project Number
20140417, 20150373, 20160469, 20170476

Start Date
May 2014

Completion Date
Ongoing

Budget
$250,000

Key Personnel Involved
Colleen Hill-Stramsak, PE, PTOE
Lia Michaels, PE, PTOE
Nicholas Nicita, PE, LEED AP
Gentjan Heqimi, EIT
Christopher Bauer, EIT
Beata Lamparski

PROJECT DESCRIPTION

Hubbell, Roth & Clark, Inc. (HRC) is assisting the City's Traffic System Engineering Department with various studies and projects. A sample of our services follows:

Policy and Guidelines
- Guidelines for mid-block pedestrian crossing locations and treatment.
- Guidelines for traffic impact studies.
- Guidelines for bike lane pavement markings and signing.
- Guidelines for art in the public ROW

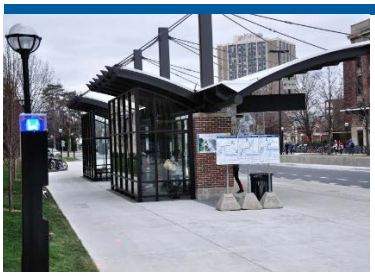
Grant Applications
- Prepared and submitted numerous successful Safety and CMAQ applications.

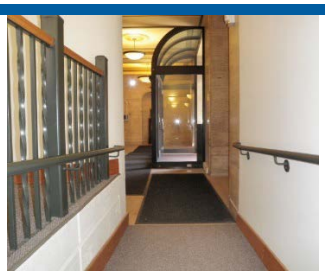
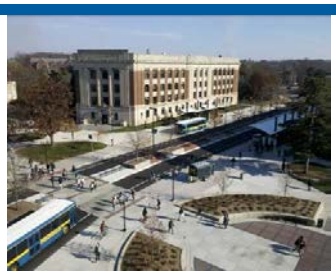
Signalization
- QA/QC traffic signal optimization plans and models prepared by others.
- Optimizing 142 traffic signals in 11 zones in the City with review by City, MDOT, and Kent County Road Commission.
- Prepared plans, specifications, permits, and cost estimates for signal modernization, pedestrian signal upgrade, and new signal projects throughout the City.
- Provided construction engineering services on signal modernization, pedestrian signal upgrade and new signal projects throughout the City.
- Provided cost estimates and specifications for the installation of Rectangular Rapid Flashing Beacons at unsignalized crosswalks and Audible Pedestrian Signals at signalized intersections.

Data Collection
- Updated database on guardrail locations and condition using a tablet with a GIS based collection system.
- Collecting turning movement counts at 142 signals using 10 Miovision cameras which include classification, pedestrian, and bicycle counts.

Traffic Engineering
- Worked with local neighborhoods to evaluate traffic calming techniques.
- Conducted a Road Diet study for Fuller Street and Alpine Street.
- Analyzed an existing roundabout and provided pavement marking and sign recommendations to improve safety.
- Provided recommendations for intersection control.
- Prepared program applications for MDOT LAP administered projects.
- Prepared SHPO applications for MDOT LAP administered projects.
- Prepared crash analyses for MDOT LAP administered projects.
- Designed and provided construction assistance for ADA compliant ramps.
- Prepared pavement marking and signing plans for various road improvement projects.

University of Michigan
Central Campus Transit Center



Owner
University of Michigan AEC Department
326 E. Hoover Ave.
Ann Arbor, Michigan 48109
Dharmesh Joshi, P.E.,
Project Manager
(734) 763-7665
shivdhar@bf.umich.edu

HRC Project Number
20090057

Start Date
March 2009

Completion Date
2010

Project Budget
$1.9 million

Awards
2010 Project of the Year Award
Intergovernmental Less Than $5 Million Category
American Public Works Association/Michigan

2010 Outstanding Civil Engineering Project of the Year Award
American Society of Civil Engineers/Southeastern Michigan Branch

Key Personnel Involved
Colleen Hill-Stramsak, PE, PTOE
Lia Michaels, PE, PTOE
Beata Lamparski

PROJECT DESCRIPTION

HRC was retained by the University of Michigan to provide design for a Central Campus Transit Center. A major bus stop along North University Drive was upgraded to meet current usage requirements and replace outdated existing facilities.

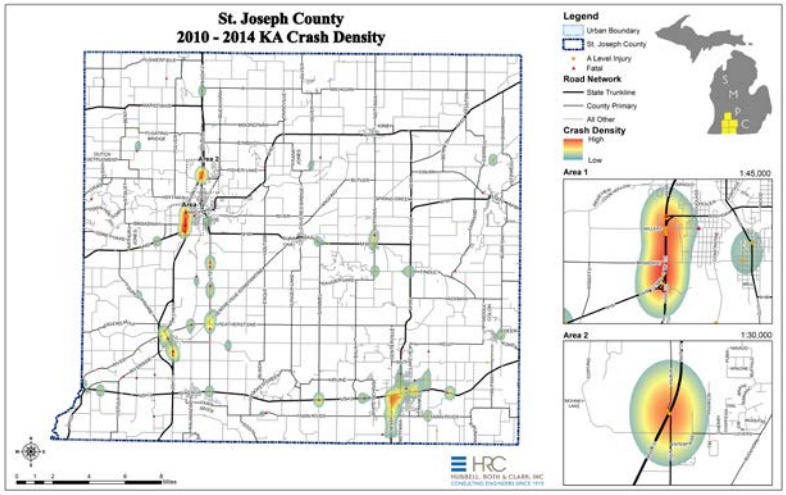
The improvements include Shelters and canopies on both sides of the road to allow users to wait for their bus without being “in the weather.” The south side of the road is approximately 166’ long and the north side of the road has approximately 76’ of shelter. The canopy style shelters include enclosures for refuge during inclement weather and to shelter riders as they embark and disembark the buses as well as to provide seating and wind breaks along the entire length. The design principles employed were to make the shelter/canopies inviting and airy without sacrificing aesthetics for functionality.

The principal stakeholders on this project were the University of Michigan and the City of Ann Arbor, Michigan. Each principal stakeholder had multiple Departments involved, each with their own needs.

During the design phase, several aesthetic treatments were considered for the final design. The project includes lighting within the shelter area, power distribution, and electronic message signs.

As part of the improvements, ADA compliance entry to all the major educational buildings adjacent to the primary work area were brought up to current standards.

Michigan Department of Transportation
Regional Traffic Safety Plans



Owner
Michigan Department of Transportation
PO Box 30050
Lansing, Michigan 48909
Mr. Casey Holvenstot
Project Manager
(517) 335-2988

HRC Project Number
20150506

Start Date
February 2016

Completion Date
October 2017

Budget
$84,711

Key Personnel Involved
Colleen Hill-Stramsak, PE, PTOE
Gentjan Heqimi, EIT
Christopher Bauer, EIT
Beata Lamparski

PROJECT DESCRIPTION

The Michigan Department of Transportation awarded Hubbell, Roth & Clark, Inc. (HRC) a contract to develop two Regional Traffic Safety Plans (RTSP). The first one was for the Southcentral Michigan covering five counties and the second one was for the East Michigan Council of Governments covering 14 counties. A RTSP is a framework for addressing a region's key safety needs and reducing fatalities and serious injuries on all applicable roads. The development of the safety plan is a data-driven and coordinated multi-disciplinary effort involving local, regional, and state agencies, and is guided by a cyclical six-step process, as depicted in the graphic to the left.

A RTSP incorporates the first five steps of the process. Several statistical and geographic information system techniques were undertaken by HRC to assist in the prioritization and implementation process of the safety plans. This task resulted in the identification of potential high-risk areas, segments, and intersections based on crash frequency and crash rate methods. Our scope of work included:

- Assisted in creating a local vision for safety improvements.
- Assisted in identifying key stakeholders and leaders.
- Gathered and analyzed crash date for 5 years, 2010–2014, and mapped hot spots based on crash density. An example is shown in the graphic above.
- Conducted a safety review of the roadway network to summarize crash facts by county and by region.
- Identified key emphasis areas, which contribute to crashes in the region.
- Developed potential countermeasures and strategies listed for each identified emphasis area using the four Es of Safety approach (engineering, enforcement, education, and emergency services).
- Prepared draft report and presentation to stakeholders for review.
- Submitted final report for review and approval by the task force members after all stakeholder comments were addressed.

City of Berkley
Municipal and DDA Directed Transportation Projects

Owner
City of Berkley
3338 Coolidge Highway
Berkley, Michigan 48072
Mr. Derrick Schueller
DPW Director
(248) 672-0292

Ms. Vivian Carmody,
DDA Executive Director
(248) 658-3350

Start Date
2003 to Present

Services Provided
- Traffic engineering
- Architectural
- Recreation planning
- Civil engineering
- Environmental assessment
- GIS
- Survey
- ROW acquisition
- Bidding
- Construction administration
- Grant applications

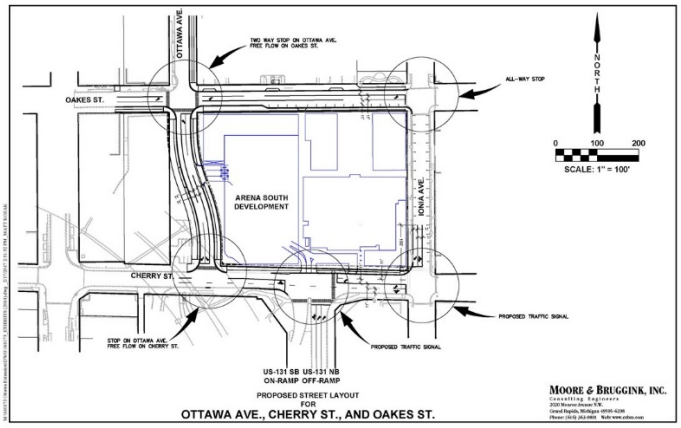
Key Personnel Involved
Colleen Hill-Stramsak, PE, PTOE
Christopher Bauer, EIT
Beata Lamparski

PROJECT DESCRIPTION

Hubbell, Roth & Clark, Inc. (HRC) has been the engineering consultant for the City of Berkley since 2003. With our multi-disciplined staff, HRC has provided comprehensive services on behalf of the City and its active Downtown Development Authority (DDA). Berkley has a traditional downtown that spans one mile along 12 Mile Road (an east-west road) and one mile along Coolidge Highway (a north–south road). Some of the projects completed for the City and DDA include the following.

- Intersection of Coolidge Hwy. and 12 Mile Road Redesign – as the crossroads of the DDA District, the plan was to create a showstopper pavement design at this intersection. HRC was approached by the DDA after the existing brick paver intersection was found to be unsuitable and worked with the DDA on alternative concepts that would withstand the traffic volumes and weather and still meet the goal of the intersection being a focal point in the DDA District. Ultimately, the decision was made to reconstruct the intersection with concrete pavement and colored, stamped concrete crosswalks and sidewalks. HRC prepared the design plans and specifications and provided construction administration and materials testing for the project.
- Mid-Block Crossing on Coolidge Highway – The DDA desired to have a mid-block crossing installed in the business district. HRC provided the planning, field review, safety analysis, and recommendation for the crosswalk location. Subsequently, HRC prepared the design plans and specs and assisted the DDA with the bidding process. Lastly, HRC provided construction administration and materials testing for the construction.
- Coolidge Highway Traffic Study – The City and DDA desired to make Coolidge Hwy. more pedestrian friendly by considering a road diet. The study involved a traffic engineering analysis, consideration of pedestrians and bicyclists, transit users, knowledge of parking, and an understanding of the transportation role Coolidge Hwy. plays in the area. HRC reviewed existing data and conditions, projected future traffic volumes, conducted a capacity analysis of the alternatives, developed a preferred alternative concept for a 4-lane to 3-lane road conversion, and attended meetings to present the findings.
- Robina Avenue at 12 Mile Road Study — The DDA desired to close the north leg of Robina at 12 Mile to create a pedestrian plaza and wanted to understand the impact of this closure. The study involved data collection, traffic-engineering analysis, consideration of pedestrians and bicyclists, and knowledge of alley and behind storefront parking lot usage

City of Grand Rapids
Arena South Development & Ottawa St. Extension Traffic Study



Owner
Moore & Bruggink, Inc.
2020 Monroe Avenue NW
Grand Rapids, Michigan 49505
Mr. Al Pennington, P.E.
Project Engineer
(616) 363-9801

HRC Project Number
20160372

Start Date
August 2016

Budget
$35,000

Key Personnel Involved
Lia Michaels, PE, PTOE
Christopher Bauer, EIT
Beata Lamparski

PROJECT DESCRIPTION

Hubbell, Roth & Clark, Inc. (HRC) conducted a traffic study to determine how the future Ottawa Avenue extension would operate with the addition of the Arena South development. The study area included Ionia Avenue on the east, Ottawa Avenue on the west, Oakes Street on the north and Cherry Street with the US-131 ramps on the south.

Moore & Bruggink, Inc. was responsible for the design of the Ottawa Avenue extension for the city of Grand Rapids. As their sub-consultant, HRC completed the traffic study, which included the following scope of work:

- Collected 24-hour and turning movement counts at the study intersections
- Calculated growth rates and projected future traffic volumes
- Estimated the trips generated by the Arena South development
- Distributed and assigned site generated trips to the study area
- Redistributed and assigned traffic from the existing BR US-131 to the new Ottawa Avenue extension
- Prepared signal warrant analyses for three intersections
- Conducted capacity analyses during the AM, mid-day and PM peak hours using Synchro® 9 software
- Performed a queue analysis to determine potential impacts to NB US-131
- Prepared a crash analysis as part of the road design exception
- Provided recommendations to improve operation in the study area

DOWNTOWN DETROIT MULTI-MODAL TRANSPORTATION PLAN

MKSK

Detroit, Michigan

MOVING THROUGH DOWNTOWN DETROIT MADE EASY WITH A NEW STRATEGIC PLAN

The Southeast Michigan Council of Governments (SEMCOG) has partnered with the City of Detroit to develop a strategy for multi-modal accessibility and mobility for the downtown area generally bounded by the Detroit River, M-10, Martin Luther King Jr. Boulevard/Mack Avenue, and I-375. MKSK is leading a multidisciplinary team of local and national experts to assess and enhance access to and movement around the downtown for employees, visitors, and residents.

The team is engaging stakeholders and community members throughout a holistic planning process that addresses the study area as an integrated system.

The project is addressing all aspects of the downtown transportation system, including: Transit Access and Routing, Access Points/Major Barriers, Operational Considerations, Transportation Demand Management and Parking Management Strategies, Curbside Uses, Bike Share Access, Streetscape Design, Pedestrian Facilities and Walkability, Bicycle Network Design, Jurisdictional Transfers, Impacts of New Mobility, and Communications.

KEY PERSONNEL INVOLVED:



CLIENT	Southeast Michigan Council of Governments
CONTACT	Alex Bourgeau, Multi-Modal Planner
PHONE	313.324.3323
YEAR	On-going, Fall 2018 Anticipated Completion

MKSKSTUDIOS.COM

SHAPING THE AVENUE

Lansing, Michigan

MKSK

INTERACTIVE STREETSCAPE DESIGN HELPS SHAPE ONE OF THE STATE'S MOST ICONIC AVENUES

Developed from years of community feedback and visioning of Michigan and Grand River avenues, Shaping the Avenue is a partnership between the municipalities of Lansing, Lansing Township, East Lansing, Meridian Township, the transit agency and other organizations. With a Federal Transit Administration TOD Pilot Grant, a form-based code was crafted to unify the character of future private development and public street design along the Avenue to create a more vibrant, pedestrian-friendly and transit-oriented corridor.

MKSK was part of a multi-firm project team to develop the form-based code, street, and streetscape design options. MKSK coordinated and facilitated a series of hands-on public workshops with a different focus for each community. Using an interactive street design activity developed by MKSK, community stakeholders and the public had the opportunity share their feedback on street design options following an orientation on 'best practices.' Participants could support the illustrated alternatives or build their own street design from scratch using streetscape components such as various sidewalk designs, protected bike lanes, medians, turn lanes, amenity zones, on-street parking, and transit lanes.

MKSK also assisted with development of form-based code regulations to supplement or replace the current conventional zoning ordinance. Once adopted, the form-based code will provide each municipality with street design guidelines specifically tailored to the vision and needs of each community, while unifying the look and feel of future development along the Avenue from the state capitol through East Lansing to the Meridian Mall for years to come.

KEY PERSONNEL INVOLVED:




CLIENT	Capital Area Transportation Authority (CATA)
CONTACT	Bradley T. Funkhouser, Deputy CEO
PHONE	517.394.1100
YEAR	2017

MKSKSTUDIOS.COM

SHAPING THE AVENUE

Lansing, Michigan

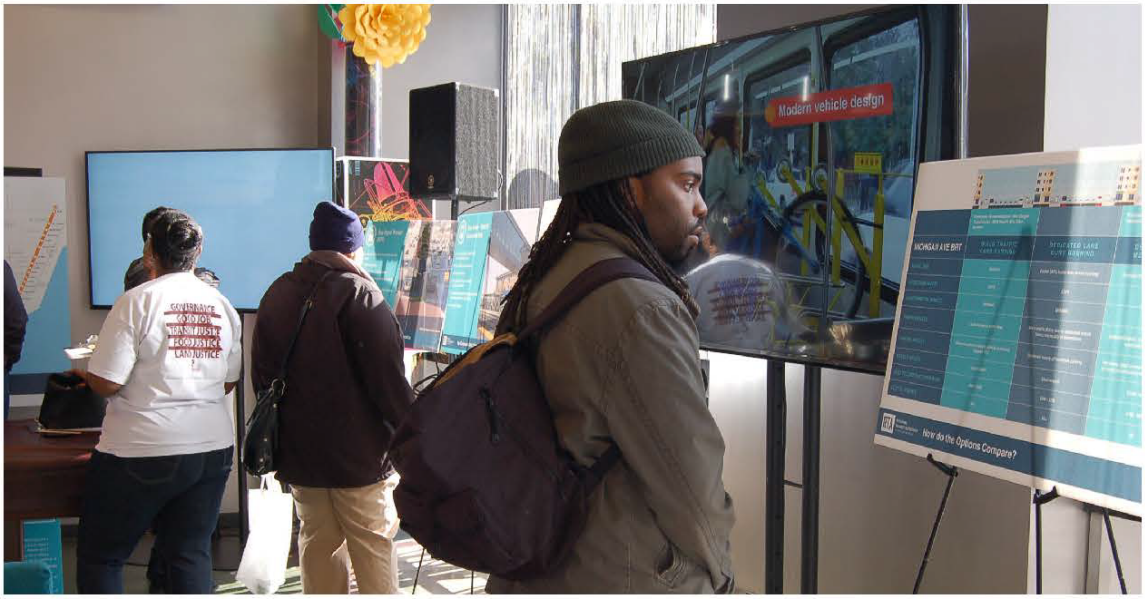
MKSK

CLIENT	Capital Area Transportation Authority (CATA)
CONTACT	Bradley T. Funkhouser, Deputy CEO
PHONE	517.394.1100
YEAR	2017

MKSKSTUDIOS.COM

SOUTHEAST RTA MICHIGAN AVENUE TOD CORRIDOR STUDY

Detroit, Michigan



DEVELOPMENT OPPORTUNITIES FOR TRANSIT-ENHANCED CORRIDOR

The Building Equitable and Sustainable Transit (BEST) projects are led by the Regional Transit Authority of Southeast Michigan and funded by the Federal Transit Authority. The study was an Alternative Analyses for rapid transit along Michigan Avenue (Detroit to Ann Arbor and Metro Airport) looking at mode, station location, alignment, ridership and development potential.

MKSK was selected as part of a multidiscipline team to evaluate rapid transit alternatives to improve transportation choices and stimulate economic development. Resulting recommendations for a BRT system included identification of stations and a series of cross sections with exclusive transit lanes so the transit will be time competitive with driving.

MKSK led the analysis of land use, station locations and descriptions of how development can be expected around the stations. This led to development of a Transit Oriented Development (TOD) overlay district for the station areas funded by the Michigan Economic Development Corporation.

Throughout the process, MKSK helped lead an expansive public engagement process that included stakeholder workshops, TOD charrettes, focus groups, presentations to municipal officials and community groups, and a series of interactive public open house sessions. In person events were supplemented by a variety of social media outreach activities.

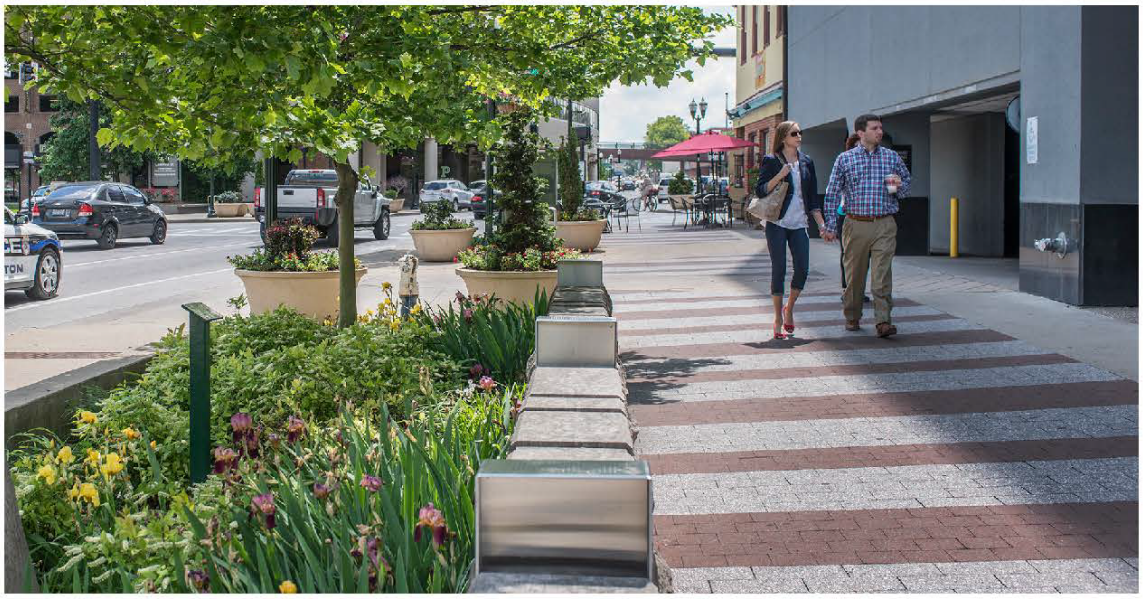
KEY PERSONNEL INVOLVED:

CLIENT	Southeast RTA
CONTACT	Tiffany Gunter, former Southeast RTA Deputy Director (now with City of Birmingham)
PHONE	248.644.1800
YEAR	2016

LEXINGTON STREETSCAPE MASTER PLAN & IMPLEMENTATION

MKSK

Lexington, Kentucky



COORDINATED FUNDING AND COOPERATION ACROSS AGENCIES ALLOW FOR UNIQUE RESULTS

The Lexington Downtown Streetscape Master Plan established a strategy and guidelines for the incremental transformation of Downtown Lexington's public realm. The goal of the plan was to restore a pedestrian-friendly and inviting environment to the Downtown district's streets and public spaces. The master plan creates better connected urban spaces within Downtown and the adjoining neighborhoods through the development of a "Complete Streets" strategy, as well as establishes on-street pedestrian spaces that support outdoor dining, entertainment, and cultural activities and incentivize private investment within the Downtown. The Master Plan was unanimously adopted by Council in 2008 and immediate phase one implementation moved forward in order to complete the improvements by the opening of the 2010 FEI World Equestrian Games.

KEY PERSONNEL INVOLVED:

Implementation involved major downtown roadway corridors, focusing streetscape improvements and green infrastructure along Main, Vine, and South Limestone Streets between the University of Kentucky campus and the downtown and Cheapside Entertainment District. Completed on a rigorous schedule, the project involved state and federal funding as well as substantial coordination between the local client, KY Department of Highways, and Federal Highway Administration (FHWA). Construction administration services included consultation with local, state, and federal officials responsible for evaluation of an FHWA "Right-to-Experiment" associated with a "Floating Bike Lane" along one of the corridors. Traffic modeling and roadway modifications were part of a "complete street" initiative that includes new bicycle facilities, bus and trolley stops, on-street parking, and loading spaces. The design of underground utilities, curb alignments, and signal infrastructure supports the future conversion of one-way streets to two-way while reducing the overall width of pavement cross-sections.

CLIENT	Lexington-Fayette Urban County Government
CONTACT	Harold Tate, Former Exec. Director, Downtown Development Authority
PHONE	859.608.5183, haroldrtate@gmail.com
YEAR	2011

MKSKSTUDIOS.COM

LEXINGTON STREETSCAPE MASTER PLAN & IMPLEMENTATION

MKSK

Lexington, Kentucky

CLIENT	Lexington-Fayette Urban County Government
CONTACT	Harold Tate, Former Exec. Director, Downtown Development Authority
PHONE	859.608.5183, haroldrtate@gmail.com
YEAR	2011

MKSKSTUDIOS.COM

LEXINGTON STREETSCAPE MASTER PLAN & IMPLEMENTATION

MKSK

Lexington, Kentucky

CLIENT	Lexington-Fayette Urban County Government
CONTACT	Harold Tate, Former Exec. Director, Downtown Development Authority
PHONE	859.608.5183, haroldrtate@gmail.com
YEAR	2011

MKSKSTUDIOS.COM

LEXINGTON STREETSCAPE MASTER PLAN & IMPLEMENTATION

MKSK

Lexington, Kentucky

CLIENT	Lexington-Fayette Urban County Government
CONTACT	Harold Tate, Former Exec. Director, Downtown Development Authority
PHONE	859.608.5183, haroldrtate@gmail.com
YEAR	2011

MKSKSTUDIOS.COM

THE OHIO STATE UNIVERSITY HERRICK DRIVE EXTENSION

Columbus, Ohio

MKSK

TEMPORARY TRAFFIC IMPROVEMENT PROJECT BECOMES PERMANENT ADDITION TO AN ACTIVE CAMPUS TRANSPORTATION NETWORK

Originally intended to relieve short-term traffic issues near the OSU Medical Center expansion, the Herrick Drive Extension project evolved from a temporary detour to a permanent improvement and new campus street. The One Ohio State Framework Plan, previous district concept plans including the 'River of Trees', and the need for context sensitive streetscape transitions between campus buildings informed the new site design. The plan preserves mature trees and the sole remnants of the native riparian landscape that fronted the Neil Run stream course, and highlights plants native to Ohio.

Approximately 11 acres of campus are influenced along a new streetscape nearly a half mile long. The extension serves as a transition between the medical and main campuses, and reconnects the street grid between Neil Avenue and Cannon Drive. The western segment will provide frontage to long-term building expansion and allow further roadway extension to Kinnear Road.

New traffic circulation patterns include two-way vehicular lanes with curb-side bike lanes, a replacement parking lot at Campbell Hall, and a connection to the 12th Avenue parking garage. A new pedestrian promenade extends from Neil Avenue to Cannon Drive with new passages between buildings and reconfigured plaza spaces at the intersections and entrances.

KEY PERSONNEL INVOLVED:

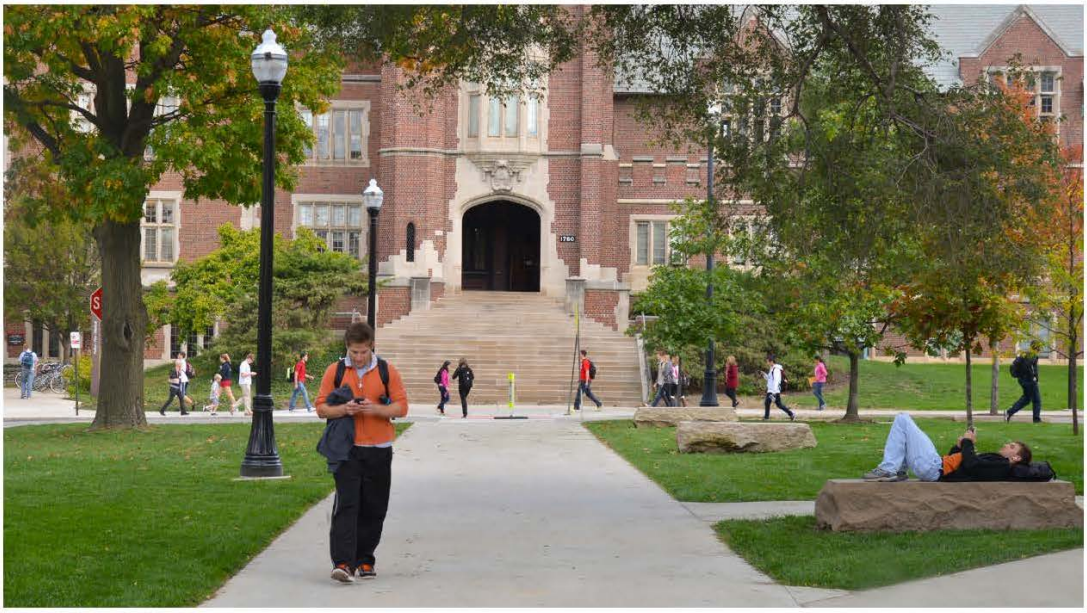
CLIENT	The Ohio State University
CONTACT	Steve Volkmann, University Landscape Architect
PHONE	614.292.3673
YEAR	2011

MKSKSTUDIOS.COM

THE OHIO STATE UNIVERSITY HERRICK DRIVE EXTENSION

MKSK

Columbus, Ohio



CLIENT	The Ohio State University
CONTACT	Steve Volkmann, University Architect
PHONE	614.292.3673
YEAR	2011

MKSKSTUDIOS.COM

West Farm/South Farm Development Traffic Study and Design

Noddle Companies

Omaha, Nebraska

KEY FEATURES

- Data Collection
- Traffic Forecasting
- Operations Analysis
- TransModeler Modeling
- Signal Design
- Plan Development
- Construction Staging
- Traffic Control Plans

REFERENCE

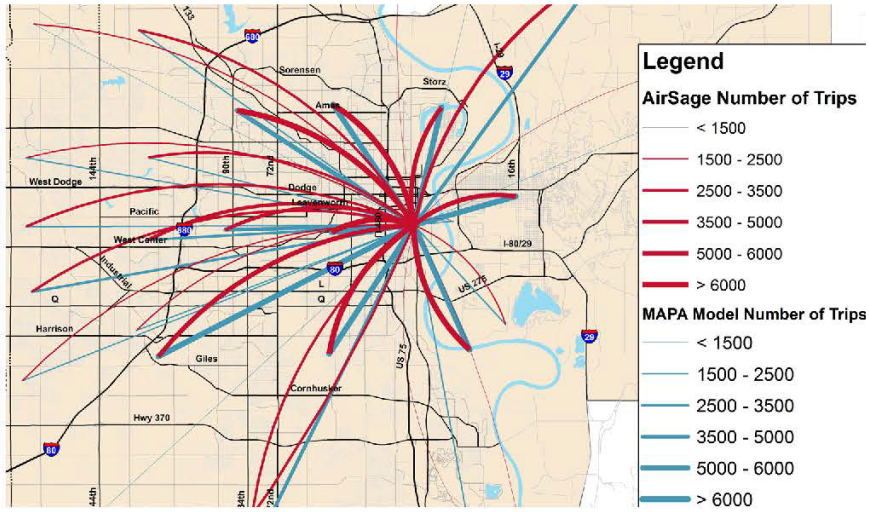
Colin Bagwell
Noddle Companies
(402) 496-1616
cbagwell@noddle companies.com

HDR provided transportation planning, traffic operations and design services for the West Farm/South Farm Development in Omaha, NE. Plans for the development are multi-use and include a corporate campus, office parks, residential, retail, and recreational uses. The development will encompass roughly 500 acres in western Omaha, and is expected to generate roughly 48,000 vehicular trips daily.

A detailed traffic impact study was performed for the site to determine transportation needs within and surrounding the site. HDR worked closely with the City of Omaha and Nebraska DOT to adequately accommodate site traffic on the surrounding four-lane arterials of 144th Street and Pacific Street, and the adjacent West Dodge Road Freeway. HDR utilized the City's Traffic Impact Study Requirements to quantify site traffic impacts and identify improvements that were needed to mitigate forecasted changes to operations resulting from the development. We gathered field counts to supplement data supplied by the City and Nebraska DOT. The team made adjustments to the Metropolitan Area Planning Agency's (MAPA's) travel demand model traffic analysis zones (TAZs) that represented the development to account for more detailed information of these TAZs. The model was then run to capture updated origin-destination patterns surrounding the site. Intersection warrants were completed for all new intersections surrounding the site, and intersection operations analysis was completed with Synchro software. Through the traffic impact study, HDR provided intersection recommendations for traffic control, number of through and auxiliary lanes, storage lengths, pedestrian accommodations and signal phasing.

HDR also used TransModeler to evaluate operations along the West Dodge Road and quantify the impacts of the site traffic on the Freeway. This Freeway is congested during peak travel times with slow moving traffic that propagates upstream and impacts multiple interchanges. The development was also proposing a new freeway access at an existing partial interchange. We modified an existing TransModeler model to include the site trips, new access and recommended capacity improvements on West Dodge Road. Output from TransModeler was presented to Nebraska DOT using a series of time-space heat maps in meeting and document materials.

The improvements included widening an urban arterial of 144th Street from a 4-lane divided section to a 6-lane divided section for approximately 1.5 miles, widening the off ramps at 144th Street & Dodge single point interchange to accommodate dual right-turn lanes, and a full reconstruction of Pacific Street for approximately 0.5 mile. In addition, the project included the design of nine new traffic signals with traffic interconnect design, signing and striping plans, and the development of traffic control plans with coordination of adjacent projects. The $10.5 million design was completed with all approvals from the City, County and State in less than six months and construction began shortly after.



KEY FEATURES

- AirSage Origin-Destination Data
- Regional Performance-Based Planning
- Travel Demand Model Development
- Multimodal Planning
- Subarea Microsimulation

REFERENCE

Greg Youell
Executive Director
MAPA
402.444.6866

Metro Area Travel Improvements Study

Metropolitan Area Planning Agency | Nebraska Department of Roads (NDOR) | Omaha-Council Bluffs Metropolitan Area

Nebraska/Iowa

HDR is leading the Metro Area Travel Improvement Study (MTIS), a comprehensive regional transportation planning study for the Omaha metropolitan area in coordination with the Metropolitan Area Planning Agency (MAPA) and the Nebraska Department of Roads (NDOR). MTIS is being used as the rigorous technical component for **MAPA's 2050 Long Range Transportation Plan**, and as an update to **NDOT's Freeway Master Plan** for the Omaha region. The study seeks a multimodal transportation system plan where investment decisions leverage all available strategies to efficiently meet the existing and future transportation needs of the metro area. The study is applying a performance-based planning approach utilizing advanced tools and big data, to tie regional performance measures to the strategy and project prioritization.

AirSage data was used to support development of an **income-based trip distribution module**. This model update allowed a better understanding of travel markets for scenario testing. The income-based trip distribution element was specified based on MAPA's 2009 National Household Travel Survey (NHTS) Add-On Sample, and trip distribution results were validated against AirSage mobile phone patterns.

Additional improvements to the MAPA travel demand model have been implemented by HDR to support the project. A **truck model** was established to estimate future medium and heavy truck flows based on forecasted regional employment changes. Custom scripting to support scenario analyses were implemented to evaluate transit-oriented development land use and transit investment scenario, and a range of potential Automated Vehicle scenarios. An array of model updates were completed to support various mobility, safety, accessibility, and environmental stewardship performance measures.

Concurrent to enhancements to the travel demand model, a TransModeler microsimulation model was developed of the Omaha freeway and key arterial roadway system to compare how alternative improvements impact travel times and provide the flexibility to analyze multimodal travel conditions at the intersection level.

KEY FEATURES

- Traffic Simulation, Planning and Engineering
- Layout of travel lane geometry and location of BRT bulbs to provide an efficient and safe layout and geometry of turning lanes
- GPS data loggers and iTREC
- GPS enabled video cameras
- Multimodal traffic simulation

REFERENCE

Amir Rasty
NYCDOT
212.839.6947

2nd Avenue Bus Rapid Transit Multimodal and Multi-Resolution Simulation

New York City Department of Transportation

New York, New York

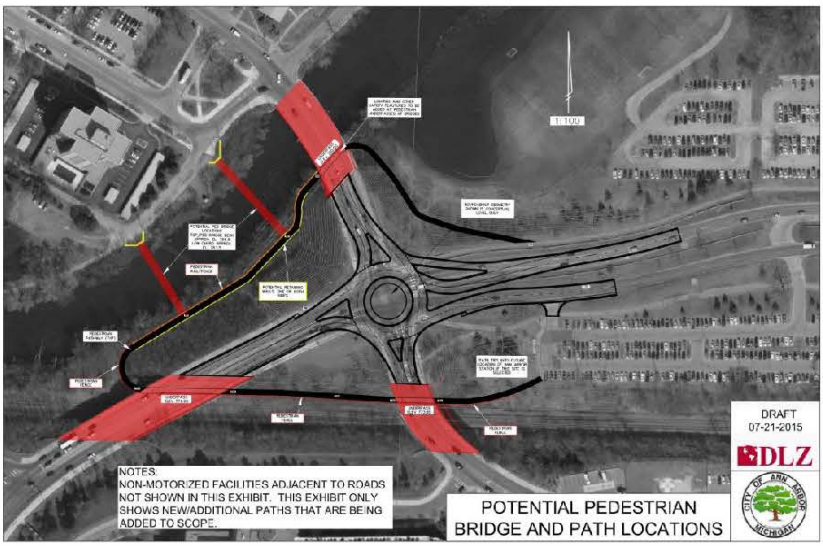
As part of the preliminary and final design for an 8.5 mile BRT route along 1st and 2nd Avenues from 125th street to the Whitehall Ferry Terminal in lower Manhattan, HDR evaluated the existing and future roadway operations focusing on both transit and bike operations along 2nd Avenue between 38th Street and 20th Street using Synchro, VISUM and VISSIM micro-simulation software.

Tasks included the data collection of vehicular operations, bus and bike operations, parking maneuvers, and travel time and delay utilizing a hand held GPS units. To develop the VISSIM simulation and provide a quick response to NYCDOT, HDR combined state-of-the art macro- and micro-simulation transportation modeling tools to evaluate various project design alternatives including Synchro, VISUM, Visnet and iTREC (both HDR developed software) to significantly reduce manpower for both data input and output requirements.

Other tasks included calibration of existing conditions, evaluation of roadway alternatives through simulation and pre-determined measures of effectiveness (MOEs). The traffic simulation reflected pedestrian conditions, bicycle activity, transit operations and illegal parking maneuvers.

The 2nd Avenue Simulation project was recently presented with NYCDOT at the PTV International User Group Conference this past September in New York City. The presentation was entitled "*Fast Tracking VISSIM Simulations Case Study: 2nd Avenue Multimodal Simulation.*"

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES



FULLER ROAD/MAIDEN LANE/EAST MEDICAL CENTER DRIVE INTERSECTION IMPROVEMENTS

ANN ARBOR, MICHIGAN

Key Elements: Stakeholder Consensus Building | Capacity and Signal Timing Analysis | Intersection/Traffic Study | Non-Motorized Study | Funding Applications | Roundabout Design | Non-Motorized Facility Design | Context-Sensitive Solutions | Maintenance of Traffic Concepts | VISSIM Analysis | Traffic Counts | Pedestrian Bridge Design

DLZ was contracted by the City of Ann Arbor (City) to study and design a major context-sensitive intersection improvement project, including significant stakeholder involvement. The purpose of the project is to address existing and future traffic congestion at the intersection. The project also includes concept design of a non-motorized path and a pedestrian bridge over the Huron River.

Our staff reviewed previous traffic studies conducted for the intersection and analyzed the intersection operations for vehicular and pedestrian traffic. We reviewed the latest traffic and crash data for the intersection as well as non-motorized traffic volumes and patterns. Our team's analysis included development of detailed VISSIM microsimulation models that encompassed PHB pedestrian signals. A detailed study report was produced by our team. In addition, we performed an engineering study that assessed the feasibility of pedestrian underpasses utilizing the three existing bridge structures adjacent to the intersection.

OWNER
City of Ann Arbor
100 N. Fifth Avenue
Ann Arbor, Michigan 48107

CONTACT
Mr. Michael Nearing, P.E.
(734) 794-6410
mnearing@a2.gov

PROJECT COST
$460,000 (estimate)

COMPLETION DATE
Ongoing

KEY STAFF
Wesley A. Butch – Project Manager
Sean P. Riley, P.E. – Lead Engineer
Stephen G. Metzer, AICP, PWS – Non-Motorized Facilities
Jason T. Whitten – Transportation Planner
Charles Fawcett, P.E., PTOE – Traffic Engineer

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

ANN ARBOR STATION CONCEPT SITE DESIGN AND ENVIRONMENTAL REVIEW

ANN ARBOR, MICHIGAN

Key Elements: Site Design | Multi-Modal Transportation Planning | National Environmental Policy Act (NEPA) | Passenger and Commuter Rail | Community Engagement | Transit Facilities

This project was a conceptual design and planning study for a new multi-modal train station. This study examined the existing intercity passenger rail station's capacity to support significant increases in ridership and rail upgrades planned for the corridor. DLZ was responsible for performing all site design work consistent with applicable site design criteria, participating in the public engagement process, assisting with the preparation of an Environmental Assessment, and ecological/ environmental studies.

During the process, DLZ participated in a series of public engagement meetings to collect input for station site selection criteria from stakeholders, local officials, and citizens. This public input was cataloged to identify a range of potential station locations and validate the essential design criteria identified by the Project Team.

DLZ spearheaded the conceptual site design work for potential station sites. All of these sites were constrained, with difficult design tradeoffs at each.

CLIENT
City of Ann Arbor
Systems Planning Unit
301 E. Huron Street
PO Box 8647
Ann Arbor, Michigan 48107

CONTACT
Mr. Eli Cooper, AICP
Transportation Program Manager
734.794.6430

PROJECT COST
$150,000

COMPLETION DATE
2017

KEY STAFF
Wesley A. Butch – Senior Planner
Robert M. Sherman, RLA – Site Designer

DLZ also assisted with evaluation of sites relative to Section 4(f) of the U.S. Department of Transportation Act. This evaluation required special consideration of park lands, which could be affected by potential station sites.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

STATE ROAD/ELLSWORTH ROAD ROUNDABOUT AND WATERMAIN CONSTRUCTION

WASHTENAW COUNTY, MICHIGAN

The Washtenaw County Road Commission (WCRC) secured Congestion Mitigation and Air Quality (CMAQ) funding for the improvement of the State Road at Ellsworth Road intersection with a roundabout.

DLZ worked closely with the WCRC and local stakeholders to develop alternatives that would not only improve traffic operations and reduce crashes, but would also incorporate context-sensitive solutions and provide a complete street concept. The preferred alternative for the project was a two-lane roundabout with a semi-bypass lane along the northern leg.
The intersection design required extensive updates to the site drainage and relocation of utilities, including a large section of transmission watermain that was designed as a part of the project. The watermain design work was performed under a separate contract with the City.

A comprehensive public involvement program was implemented throughout the entire project process. Our team met with numerous local stakeholders, business owners, and advocacy groups to collect community input. Complete street elements and context-sensitive solutions included identifying potential bus routes and stops, on-street bike lanes, non-motorized pathways, lighting, and access management. The project was designed and let through Michigan Department of Transportation (MDOT) Local Agency Programs (LAP) and was built in 2013.

OWNER
Washtenaw County Road Commission
555 North Zeeb Road
Ann Arbor, Michigan 48103

CONTACT
Ms. Sheryl Siddall, P.E.
Washtenaw County Road Commission
(734) 761-1500

PROJECT COST
$158,600

COMPLETION DATE
2013

KEY STAFF
Sean P. Riley, P.E. – Project Manager
Wesley A. Butch –Roundabout Expert/ QA/QC/ Public Involvement
Jason T. Whitten – Project Planner

C. Proposed Work Plan

The HRC team will collaborate with the City of Ann Arbor Project Manager and other staff comprising a project management team to promote study outcomes that will position the City for transformation of mobility in the Lower Town Area (LTA). The first step is a meeting between the HRC Project Manager and the Ann Arbor Project Manager to form goals for the study. All subsequent work will be accomplished and measured against these study goals. We would like to emphasize that the HRC team sees these goals as defining a successful study process. Through a successful study process, the City will reach the end of this study with implementable products, shaped by the needs of the community and the servicing agencies, and by innovations from the consultant team.

Potential study goals might include:

- Goal 1 – Build on past Ann Arbor area studies in forming LTA needs and potential improvements
- Goal 2 – Engaging the public in the formation of proposed improvements for the Lower Town Area
- Goal 3 – Establish baseline multimodal travel conditions and demand
- Goal 4 – Develop a suite of software tools that allow for easy transition of traffic forecasting data to micro traffic analysis tools
- Goal 5 – Improve safety for non-motorized users

HRC chose to bring in MKSK Studios, HDR and DLZ, who are highly qualified to translate City goals for the LTA Mobility Study into objectives and actions that will make the study a success.

The establishment of study goals will allow the HRC team to develop a standard format for conveying the project status to the City of Ann Arbor Project Manager. Project status updates will be provided monthly ahead of a monthly progress meeting. Monthly progress meetings will focus on the workplan of the past month, the proposed workplan for the next 2-3 months, consultant requirements of City staff, and City or consultant identified issues and related course correction. The HRC Project Manager (PM) will attend each monthly progress meeting in person and establish and communicate a plan to the City Project Manager on the involvement of other consultant key staff via in-person attendance or conference calls. The HRC PM will also manage day-to-day communication between the City of Ann Arbor, other project stakeholders and data providers, and the consultant team, logging all project correspondence for the duration of the project and tracking any unresponsiveness in project communication.

HRC has prepared this Work Plan as a starting point that will help narrow a far-ranging and complex scope of work and public engagement into an effective planning tool for the City that meets its objectives. We anticipate this plan will be a starting point, and after meeting with the City, a final Work Plan will be developed and tracked throughout the project. This will ensure the project meets the City's objectives in a timely manner. Large-scale undertakings such as this, especially with substantial public engagement and seemingly competing interests, can easily stray from the goal, and extend well beyond the anticipated completion date.

The HRC team sees the project advancing through the following study tasks:

1. Kickoff meeting to finalize study goal/objective identification, refinement of workplan/schedule
2. Existing Data Summary — Data collection, review of past and supporting studies, early public engagement, and development of a base suite of travel modeling tools. Through these processes, the HRC team will establish baseline travel conditions and needs to be shared with the City of Ann Arbor.
3. Evaluation of Future Conditions — Modeling and assessment of future conditions and needs to be shared with the City of Ann Arbor.
4. Public Engagement
5. Develop Recommendations
6. Develop Implementation Plan
7. Draft and final reports to document the process and recommended implementation plan.

The HRC team will provide all services listed in the Request for Proposals (RFP), but we have reorganized the tasks to reflect how we expect the work to flow to complete the requested services.

TASK 1. KICKOFF MEETING

HRC and Ann Arbor will meet to finalize study goal / objective identification, refinement of workplan / schedule. At this meeting we anticipate discussing the following primary issues:

- Identify Goals
- Assess existing data/information
- Discuss future plans/considerations
- Review and finalize work plan and schedule
- Identify/introduce key team members and stakeholders
- Discuss and summarize the public engagement plan based on the City's Public Engagement Toolkit and work plan proposed by the HRC team
- Establish key milestones

TASK 2. EXISTING DATA SUMMARY

Existing Planning Documents and Proposed/Potential Developments

We recognize there has been considerable prior work that covers some aspects of this Study. The HRC team will review and summarize previous transportation and land use studies and plans for the area as listed in the RFP. Once we have a general understanding of the scope of those studies, we will facilitate a session with City staff that were key players in those efforts. This may also include staff from WATS, MDOT, AAATA, and the University of Michigan. At this meeting, we will present a working list of findings, goals and concepts from those plans to that we can be briefed on key elements covered, status of implementation, data evaluations, recommendations that still apply, and those that may not. As we move through the process, we will integrate some information from those prior studies to help build support for the Lower Town Mobility Study recommendations.

HRC and MKSK will review the development proposals, including site plans and transportation impact studies, for the seven projects identified in the RFP. Both firms provide this type of service for many municipalities. We will consider the transportation impacts of those developments as we evaluate alternatives. Depending upon the timing, we will identify improvements needed to help mitigate their impacts and improve travel for pedestrians, bicyclists and transit users. We will also use these as examples of how design and Transportation Demand Management approaches could improve safety, reduce the peak hour traffic impacts and support a mode-shift toward fewer single occupant vehicles. In addition, MKSK will evaluate the potential use or redevelopment of sites in the study area per the City's Master Plan. This may include development or design scenarios that could result in different mode splits. We will work with the City to select the "most likely" scenario for use in the modeling.

Ann Arbor STEAM Traffic Circulation

The HRC team will meet with staff at the Ann Arbor STEAM school to understand the operations and transportation issues. We want to know the bus routing to the schools, timing, past and current on-site traffic management efforts, and communications with parents. Based on that background, the team will observe transportation operations on a typical school day. We will offer suggestions that could include capital improvements around the school, signs, on-site circulation, communications with parents, and possibly some off-site changes.

Existing Counts and Data Collection Plan

Ann Arbor has a wealth of traffic data from both its own planning studies and from numerous traffic impact studies. Harnessing all the sources of traffic data will be a fun challenge to determine where, if any, gaps exist. In reviewing the 2017 Non-Motorized Progress Report issued in April 2018, we noted that there are annual non-motorized counts through 2017 but only in select locations. There was a 2006 and 2012 count at Pontiac and Moore, a 2008 and 2013 count at Glen and Catherine, a 2013 count at Plymouth and Barton, a 2014 count at Fuller and Maiden, a 2015 count at Pontiac and Barton, and, a 2016 count at Plymouth and Murfin (on the edge of the study area). None of the planned 2018 counts will be in the study area. Because of the age of some counts and the small number of intersections counted, we expect to provide ped and bike counts at a minimum of 20 uncontrolled crossings, which will expand the inventory.

Figure 2. Nine99 site, on Maiden Lane between Pontiac and Nielsen Court

HRC has reviewed several traffic impact studies for developments in the study area. These include Nine99 (formerly 1140 Broadway), Barton Green, and the UM Wall St. Parking Deck. Figure 2 shows the Nine99 site, getting ready for construction, on Maiden Lane between Pontiac and Nielsen Court. All these studies took turning movement counts at key intersections and we have access to the raw data. There are three major intersections in the study area. Our team members, DLZ, are studying the Fuller and Maiden Lane signalized intersection and have the necessary data. The intersection of Maiden Lane, Moore, Plymouth, Broadway, and Traver were part of two different traffic impact studies, so we have data and a capacity analysis for this location. The third intersection is Broadway, N. Division, Beakes, and Summit which has been specifically identified by the City due to congestion and long queues. We know that we will be taking counts at this complex, signalized intersection as there does not appear to be current traffic data. As soon as we create a master spreadsheet with count locations and dates, we will be in better position to recommend additional locations for turning movement counts.

Non-Motorized Investigation

The key goals of the non-motorized investigation are to identify the existing conditions and establish future needs that will enable the City to achieve long-lasting and positive community change. The HRC team has provided city-wide, subarea, and project-specific assessments of non-motorized infrastructure for cities throughout Michigan including Ann Arbor, Midland, Marquette, Grand Rapids, and Dearborn. Figure 3 shows bike lanes in the study area along Pontiac Trail.

Figure 3. Bike Lanes along Pontiac Trail

Our team will conduct a review of the available non-motorized data and conduct a site visit to verify and evaluate the current non-motorized conditions within the study area, such as bike lane on Pontiac Trail shown in the photo. The following main sources will be used as the basis for the non-motorized investigation:

- 2017 Non-motorized Progress Report
- City Master Plan — Non-motorized Transportation Plan 2007 and 2013 Update
- City Parks and Recreation Open Space Plan 2016–2020

These sources provide excellent data for existing conditions within the project area by identifying existing non-motorized facilities, activity centers, sidewalks, pedestrian and biking routes. A comprehensive review by our experienced staff will provide a thorough understanding of the existing non-motorized facilities within the study area prior to our site visit. As part of this task, a site visit will be conducted to verify the existing inventory provided by the City. Team site visits will also identify pedestrian crossings, obvious ADA deficiencies, existing barriers, right-of-way constraints, roadway cross sections, conflicts with roadways and other road-users, available right-of-way, key destinations, and opportunities. Information collected as a part of the analysis will be included in a spreadsheet database and corresponding mapping.

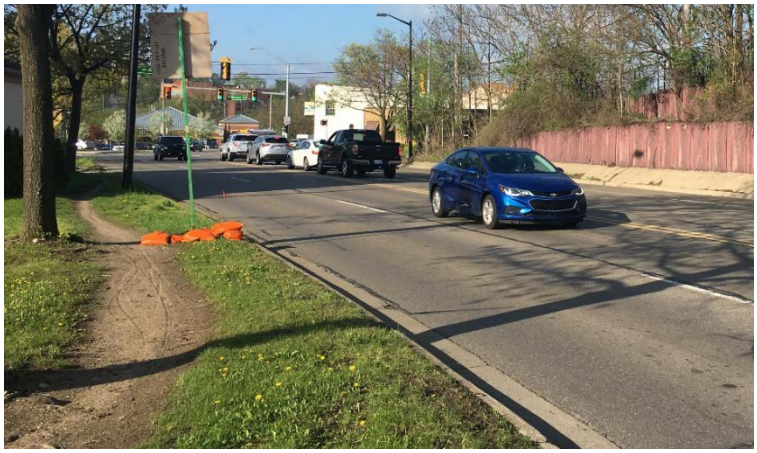
Our proposed work plan does not include a full ADA compliance inventory or GIS mapping/data collection. Should the City so desire, these tasks could be performed by our team as additional services.

TASK 3. EVALUATION OF FUTURE CONDITIONS

Identification of Existing and Future Non-Motorized Mobility and Safety Deficiencies

The first step of this task will be to assess the existing transportation system to identify existing challenges when traveling within the project area to facilitate the non-motorized needs for the project area. This assessment will be based on stakeholder input, review of the existing data, and the site visit. The existing non-motorized mobility and safety deficiencies will be identified based on the user needs. Figure 4 shows a link on Plymouth Road that needs a non-motorized facility as evidenced by the well-worn goat path.

Figure 4. Goat Path along Plymouth Road



Identification of future deficiencies will be based on the Non-motorized plan and other relevant City plans. This analysis will also identify future non-motorized mobility and safety deficiencies based on the potential developments within the study area as noted in Section 3G of the RFP. Future non-motorized volumes and will be based on Traffic Impacts Studies (TIS) (as available) for future developments in the project area. We will work with the City to predict and develop non-motorized volumes for potential developments where a TIS has not been completed.

Potential deficiencies may include high crash areas, non-motorized/automobile conflict areas, segmented sidewalks/non-motorized paths, lack of connections to other areas of the City or regional routes, lack of non-motorized facilities, areas that are not consistent with approved plans, etc. The existing and future non-motorized mobility and safety deficiencies that need to be addressed will be identified and documented in the spreadsheet and mapping developed as part of Task 2.

Transportation Demand Modeling

The task leader for the Multimodal Modeling and Analysis task is Jason Carbee of HDR. In 2011, Jason worked with WATS and the City of Ann Arbor on the Ann Arbor Transit Connector Feasibility Study. On that study, Jason utilized the mode choice elements of the WATS Travel Demand Model (TDM) to evaluate a range of potential transit alternatives for the Central Connector.

To support the decision-making process in this study, the team will complete a multimodal analysis of travel patterns to, from and across Lower Town. To complete these assessments, there are a range of potential combinations of modeling approaches, data, and tools that could be used. All the options would involve using the WATS TDM again. The TDM is a powerful tool that is well suited for the scenario analysis required for this study. However, the TDM is typically calibrated at the regional level, but can sometimes benefit from refinements at the small-area scale like this study. For this study, the TDM detail can be enhanced by applying big data products like StreetLight Data. The two options for the analysis tools and approaches that the team would like the City to consider include the following:

Option 1 — Static Microscopic Evaluation – this option would use the TDM to establish travel patterns and future growth levels. Those patterns would be combined with the existing data collection (traffic counts, bicycle and pedestrian counts, transit ridership) in a spreadsheet to establish multimodal demand data for use in the analysis tools. The data would then be transferred into one or more static microscopic analysis tools such as Vistro or Synchro, and / or GIS for multimodal analysis. The Vistro or Synchro models will be originally setup for the Lower Town area, but the linkage between TDM, spreadsheet calculations, and microscopic analysis tool is flexible to allow the City to expand the model limits in the future. The outcome of this task is a base microscopic evaluation tool with data efficiencies and automation to allow for multiple runs of the travel demand model with automatic volume updates in microscopic analysis tool. The microscopic analysis tool will then be leveraged to support other tasks process of providing study recommendations and timeline for implementation.

The multimodal modeling analysis using this option would consist of the following subtasks:

- Project Management and Coordination — Conference calls with the City of Ann Arbor and WATS and would fall under this task. Effort to provide progress updates within the team and to stakeholders, develop a project management and quality control plan, and document the process.
- Travel Demand Modeling — Effort to assess the value of the WATS TDM to the study area, make any agreed upon refinements to the model, and develop and run scenario models for existing conditions, future base conditions, and up to two future build/scenario conditions.
- Base Vistro/Synchro — Effort to build from aerial imagery and system of streets and intersections to represent the project study area. Allows time for building existing signal timing information and traffic demand at the turning level movement into the model. This subtask also allows for the analysis of existing conditions, future no-build conditions, and up to two future build / scenario conditions at the micro level with HCM based measures of effectiveness for multimodal traffic.
- Post-Processing Spreadsheet/Data Linkage — Effort to develop a correspondence between the WATS TDM and Vistro/Synchro to easily port information between the platforms. This subtask will be developed in a Microsoft Excel spreadsheet or comparable software, including a separate function for taking raw travel demand model outputs and combining them with base year data to develop a post-processed estimate of multimodal demand and a function to structure that demand data and any new network elements as additions to a base micro modeling tool.

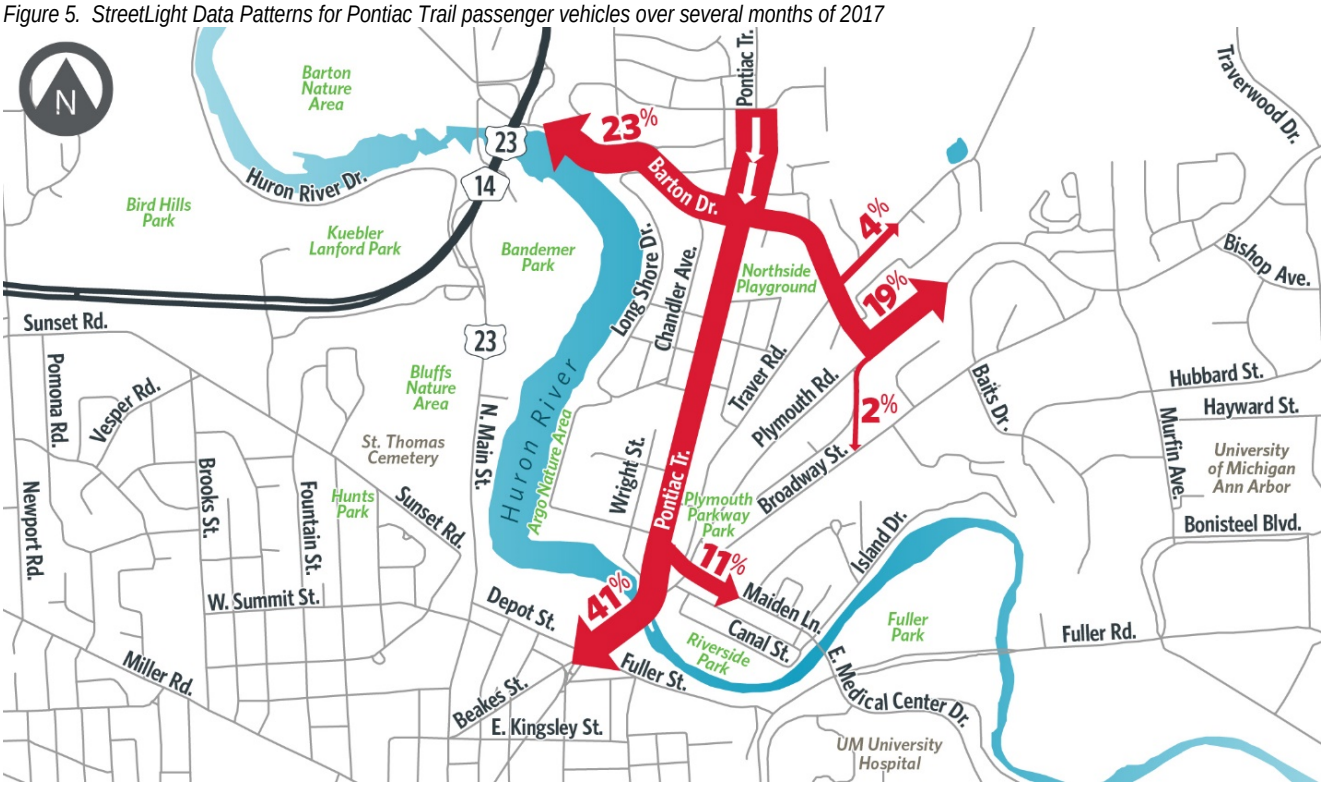
Option 1 has been included in the price proposal, Option 2 described below is listed in the price proposal as a proposer suggested item.

Option 2 — Microscopic Simulation with Probe Data – this option would leverage big data (StreetLight origin-destination data) described below to validate existing TDM travel patterns into and out of the study area. The TDM would be used to establish changes in travel patterns for the various scenarios, pivoting off the StreetLight GPS-probe data travel patterns. Through a process (potentially automated) the TDM – StreetLight travel demand sets would be transferred into a simulation software package (such as TransModeler, or Vissim/VisWalk). In the simulation package individual vehicles will be routed through the multimodal transportation system of the Lower Town area with each vehicle traversing area roadways. Traffic microsimulation tools such as TransModeler and Vissim are well suited to deal with the intersection conflicts of several closely spaced intersections carrying multimodal traffic as present in the Lower Town area near the Med Center and are recommended over methods in the Highway Capacity Manual when queues are expected to exceed available storage lengths or the distance between signals.

An automated or semi-automated flow from TDM to calibrated microsimulation model allows for flexibility in the alternatives analyzed and better reporting of trip and corridor level measures of effectiveness. A microsimulation model allows for mode shift supporting alternatives, like modeling bike lanes, complex traffic signal priority for multiple modes and unsignalized pedestrian crossing improvements, which represent gaps in analytical modeling tools. Further, the latest version of microsimulation tools includes efficiencies for network expansion through smart use of GIS and efficient databases for storing traffic signal plans (particularly TransModeler).

StreetLight Data is a company that provides big data evaluation of origin-destination travel through corridors. Team member, HDR, has partnered with StreetLight to get unique access to their StreetLight InSight platform to review a massive amount of anonymous Mobile Data into Origin-Destination matrices and Select Link analyses. This data can be used to evaluate travel patterns through key corridors, to answer questions like, "Where does traffic using Pontiac Trail north of Barton come from and go to?" We are showing this data as an optional element to supplement the TDM work. It can be used in a cost-effective manner to answer any unique travel questions and verify critical travel patterns that arise during study development. An illustration of StreetLight data patterns for Pontiac Trail passenger vehicles over several months of 2017 is shown in Figure 5 below.

Figure 5. StreetLight Data Patterns for Pontiac Trail passenger vehicles over several months of 2017



The multimodal modeling analysis using this option would consist of the following subtasks:

- Project Management and Coordination — Conference calls with the City of Ann Arbor and WATS and would fall under this task. Effort to provide progress updates within the team and to stakeholders, develop a project management and quality control plan, and document the process.
- Probe Data Analysis and Application — Effort to review the Streetlight data for ground truth mobility patterns and assimilate this data with other collected data (e.g., traffic counts). This subtask will also include any refinements of travel demand model zone-based trip generation and trip distribution in the WATS model specific to the subarea.
- Travel Demand Modeling — Effort to assess the value of the WATS TDM to the study area, make any agreed upon refinements to the model, and develop and run scenario models for existing conditions, future base conditions, and up to two future build/scenario conditions.
- Base Vissim/TransModeler — Effort to build from aerial imagery and system of streets and intersections to represent the project study area. Allows time for building existing signal timing information and traffic demand at origin, destination, and route levels. The base microsimulation model will be calibrated to local driver behavior based on traffic data and visual inspection of the model against field conditions, which will require the development of calibration targets and statistical comparison of model performance to these targets. This subtask also allows for the analysis of existing conditions, future no-build conditions, and up to two future build / scenario conditions at the micro level with Highway Capacity Manual based measures of effectiveness for multimodal traffic.
- Post-Processing Spreadsheet/Data Linkage — Effort to develop a correspondence between the WATS TDM and Vistro/Synchro to easily port information between the platforms. This subtask will be developed in a Microsoft Excel spreadsheet or comparable software, including a separate function for taking raw travel demand model outputs and combining them with base year data to develop a post-processed estimate of multimodal demand and a function to structure that demand data and any new network elements as additions to a base micro modeling tool.

Transit Operational Assessment

Operational assessments of transit service in the study area would be conducted by the team. These assessments would include evaluating existing ridership and operational data for key routes in the study area, including Routes 22, 23A, 23B, 63, and 65. Figure 6 shows a bus on Route 23 A near Maiden Lane. The evaluation methodologies could include quality of service factors, access/connectivity assessment, and ridership demand assessments. The travel demand model would be used to leverage the existing data to not only understand current operations, but to understand emerging trends. The transit assessment could also be performed to match with any locally-defined performance measures.

Figure 6. Route 23 A near Maiden Lane

Capacity Analysis

Using the data provided by TDM analysis, existing and future year capacity analysis will be developed to replicate field conditions and determine improvements necessary to ensure safe and efficient movement of all modes of travel. HCM reports will be generated for auto, pedestrian and bicycle modes of travel for existing and future scenarios.

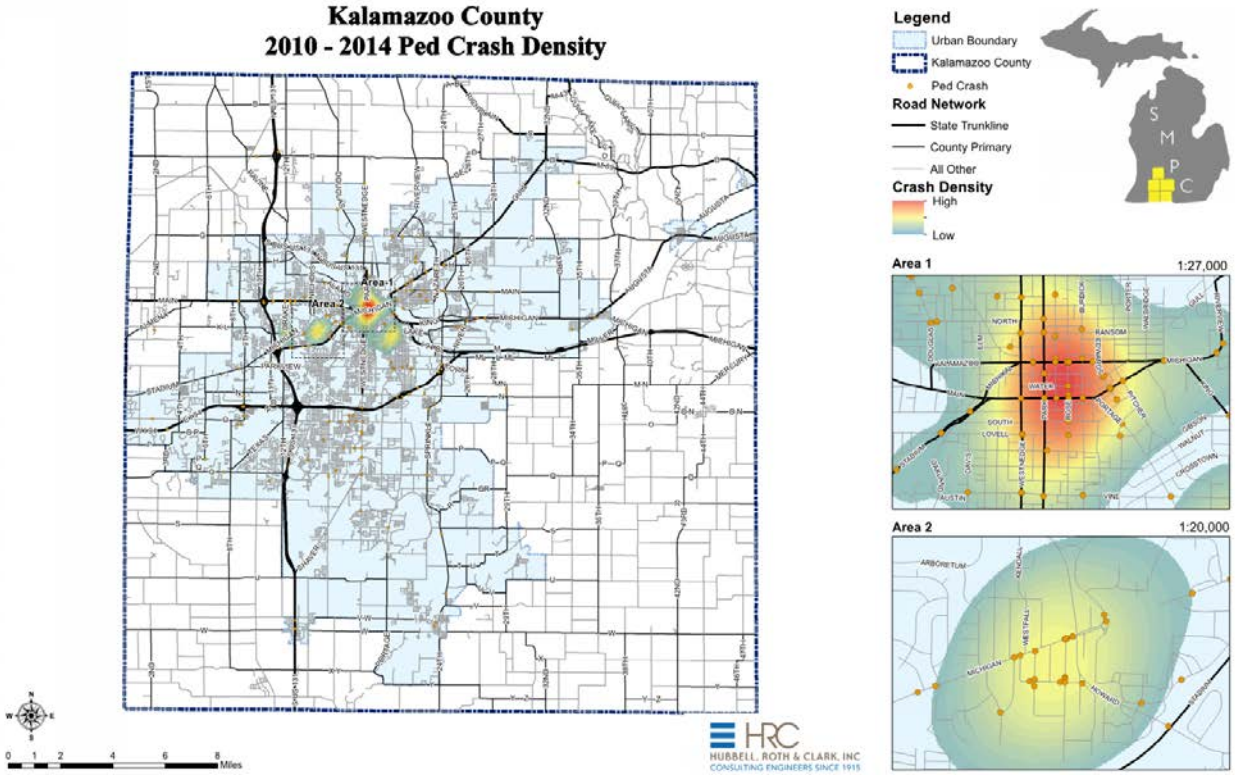
Crash Data Analysis

An important goal of the mobility study must be to improve safety for all road users. We believe that a thorough crash analysis can reduce fatalities and serious injury crashes. To assist the City in achieving the goal of improved safety, we propose to provide the City with a crash analysis memo that will:

- Analyze crash data
- Determine hot spots or locations with a concentration of crashes and/or crash type
- Determine emphasis areas which identify causes of crashes such as pedestrians, bicycles, transit, young drivers, age 24 years and younger, or distracted driving
- Identify strategies or countermeasures using the 4 Es of Safety that the City can consider and implement; the 4 Es refer to Engineering, Enforcement, Education, and Emergency Services

Team leader, HRC, has successfully utilized statistical and geographical information systems (GIS) techniques in the determination or hot spots and emphasis areas. Mapping of GIS based crashes is a powerful visual tool in analysis and we use these techniques for this study, analyzing vehicle, pedestrian, bicycle and transit crashes. Figure 7 is a sample hot spot map below, which shows pedestrian crash density in Kalamazoo County.

Figure 7. Pedestrian Crash Density Map for Kalamazoo County



TASK 4. PUBLIC ENGAGEMENT

The HRC team will facilitate a process to engage residents, stakeholders, system users, and City officials/staff to gain input on issues, goals, concepts and priorities. Using the City's Public Engagement Toolkit as a guide, the team will develop an outline for a Public Engagement Plan. Once we have an outline, we will meet with key City staff to agree on the approach, outreach methods, number and types of events, milestones for updates, and consultant/city staff roles within the budget.

Our initial impression, based on prior experience in Ann Arbor, includes the following tasks for the community engagement. We will work out the details, including any shift in level of effort, based on a kickoff meeting with city staff. At that meeting we will discuss options that can be included in the budget, availability of City staff to assist, and other logistical matters.

- A project website to be prepared by the team for posting by the City. This will be updated to announce events and following those events to summarize them. The project team can create and host the project website; however, this option has not been priced out at this time.
- One day of intercept surveys of pedestrians, bicyclists and transit users. We would have a simple set of survey questions to get their input. Preferably the City would post signs to announce the survey and assist with some intercepts.
- Two mobile workshops with City staff, which could include representatives of the Transportation Commission. The first would be early in the process to discuss prior studies and their recommendations plus observation key hot spots. The second would be to field test alternative concepts.
- Facebook ads can be developed for the project to the word out to the community about meetings and website information.
- Two meetings with Ann Arbor Schools specifically about routing options to Pontiac Trail and access to the STEAM school. We propose those be held at the school or school district offices.
- Up to two separate meetings with staff from the University of Michigan.
- Three public events. The first would be to review data and evaluation findings, discuss issues and observe features to consider. Second would be a workshop to present alternatives (and developed additional ones – see Task 5). Both would preferably be hosted somewhere in the Lower Town district, with the City to secure the location. The third event would be an open house at City Hall the late afternoon before a Transportation Commission meeting. This would allow informal review of the study and discussions with the consultant team, City staff, and if desired, some Transportation Commission members.
- A public presentation (hearing if required) at the Transportation Commission meeting.

The team will prepare briefings on project updates for the City staff to present at the Transportation Commission, Planning Commission and City Council meetings. Team members are available to assist in presentations if needed (with a shift of hours from other budgeted tasks).

TASK 5. DEVELOP RECOMMENDATIONS

The HRC team will evaluate deficiencies and needs for all road users within the study area using the analyses completed in Task 3 and the public input received through Task 4. The recommendations will include all modes of travel, a sample of modes are highlight below to give an overview of the analysis.

Roundabouts

The team proposes to evaluate the feasibility of a roundabout at the Plymouth Rd/Broadway St/Moore St/Maiden Lane intersection and at the Pontiac St/Moore St/Longshore Dr intersection. Factors to be considered for the evaluation could include traffic operations, safety, non-motorized accessibility, maintenance of traffic, right-of-way availability as well as others such as constructability and planning level construction costs. A capacity analysis using RODEL and HCS would be conducted to determine existing and future traffic operations at the intersections.

This task does not include concept design drawings or VISSIM modeling or a roundabout feasibility at the intersection of Division Street/Broadway Street/Beakes Street/Detroit Street/ Summit Street. Should the City desire these efforts, our team can provide them as additional services.

Crosswalks

The study area has approximately 12 marked uncontrolled crossings throughout the study area. Four crossings are located on Pontiac Trail. Another three crossings are concentrated on Maiden Lane, as shown in Figure 8. These are two very different corridors. Besides these existing crossings, we have already noted two locations along Pontiac Trail, at Knightsbridge Circle and the Rudolf Steiner School, and a location on Broadway Street at Plymouth Park that may be potential sites for a crossing.

Figure 8. Crosswalks on Maiden Lane

Following the guidance provided in NCHRP 562, we propose to evaluate the sites. We expect to utilize Worksheet 1 as the speeds are less than 35 mph. We will collect data using Miovision cameras to determine if the minimum required peak hour volume of 20 peds per hour is met. Using the same cameras, we will collect vehicular traffic volumes to see if the crossing meets warrant for a traffic signal. Our next step will be to estimate pedestrian delay. We will collect pedestrian crossing distance in feet and the posted speed limit. We will determine the correct pedestrian walking speed based on a review of the video to see the approximate age of the pedestrians and their pace. We will determine motorist compliance in stopping for peds based on input from City staff and the video review. The options for compliance are high or low. Lastly, we will utilize the HCM suggested ped start-up time and clearance value of three for the equation. Based on the results of the analysis, we will provide recommended treatments to the city for consideration. These treatments can include supplemental signs and markings, median refuge island, and curb extensions.

Non- Motorized Improvements along Pontiac Street/Pontiac Trail

The goal of this task is to identify transportation improvements that transform the corridor into a multi-modal environment that balances the needs of all modes of transportation but perhaps gives a preference to non-motorized and transit users. As the city is aware, the southern half of Pontiac Trail is single family residential but there is developmental pressure to build higher density, multi-family development in the northern half. This land use change has already led to conflicts and resistance but traffic from the north will be increasing, so our alternatives need to sensitive to evolving land use and development plans. Part of our evaluation is how to best accommodate these trips without relying on private automobiles. The first step of this task could be to conduct a Multimodal Level of Service (LOS) Analysis using the Highway Capacity Manual (HCM) methodology to explore different road strategies and design features and how they affect non-motorized users. The multimodal analysis can help quantify the operational tradeoffs among road users and help prioritize transit, bicycle, and pedestrian improvements and determine the optimal balance between pedestrians, bicyclist, transit, and autos.

Building on information gathered from the non-motorized investigation, stakeholder input, existing plans, and HCM Multimodal LOS Analysis, the HRC team will brainstorm as a team to identify potential corridor improvements, such as enhanced pedestrian/bike facilities, adding pedestrian crosswalks, signing and signals, more transit amenities, and implementing access management techniques that would keep traffic moving at the posted speed. The team will evaluate possible design concepts that would fit within the existing right-of-way along Pontiac Street/Trail. The improvements will take into consideration the types of users, available roadway capacity, available right of way, existing and planned routes, key destinations, and opportunities. We will incorporate a holistic strategy that integrates multi-modal transportation and street design.

The team will then work with the City staff to prioritize the potential alternatives that emphasize travel and safety for pedestrians, bicyclists and transit. Once we have a few alternatives, these could be presented as part of one of the public workshops noted in Task 4. At this workshop, participants would indicate their preferred alternative or develop one of their own. The outcome of this task will be to identify short, medium, and long-range recommendations to transform the corridor into a multi-modal environment that balances the needs of all modes of travel.

TASK 6. DEVELOP IMPLEMENTATION PLAN

Based on public and stakeholder engagement, the HRC team will refine recommendations and develop a draft implementation plan for improvements to the Lower Town Area. Planning level cost estimates will be generated for recommendations and used to develop a plan for implementing the plan over a period of years depending on funding availability.

Coordination with Fuller Road/Maiden Lane/EMCD Improvements

Our team member, DLZ, is the prime consultant for the current improvement study for the intersection of Fuller Road/Maiden Lane/EMCD. This study is evaluating potential improvements to better accommodate motorized and non-motorized travel at this major intersection. The study is also considering a possible new pedestrian bridge across the Huron River in the same vicinity, with connections to the Border to Border Trail. Throughout the course of the Lower Town Area Mobility Study, we will account for whatever intersection improvements are eventually adopted at this location.

Coordination with 2018/2019 City Transportation Plan Update

The HRC team will work with the selected consultant/team to incorporate Lower Town Area Mobility Study recommendations into the to the City's Transportation Plan Update.

TASK 7. DRAFT AND FINAL REPORTS

The team will prepare a draft and then final report. The report will describe integration of information from previous studies, new data, our evaluation, goals, alternatives considered and preliminary recommendations. The draft will be vetted with city staff, mostly likely through a series of technical memos as tasks are completed. The report will include text, tables, maps, graphics, simulations and an action program. Technical details, such as modeling results, will be in a separate appendix. The HRC team will work with the city to post the draft report on the City's website for public comments as well as provide an electronic version of the final report.

As noted in the public engagement efforts described in Task 4, we suggest an informal public open house in the study area, and later another one the late afternoon at city hall before a Transportation Commission meeting. We will track public comments and provide a summary. We anticipate that City staff will provide our monthly status reports as updates to the Transportation Commission. Our assumption is that the Transportation Commission will endorse the study, and the final report will be integrated into the City's overall Transportation Plan update. Therefore, we have not included a separate process for adoption of this study outside of the City's existing transportation plan process. The team fully expects abundant public participation during the study process.

WORK PLAN SUMMARY – WHY CHOOSE THE HRC TEAM?

As noted herein, HRC has prepared this 7-Task Work Plan which outlines our approach to accomplishing the City's goal of preparing a complete mobility plan for this critical area. There are many ways to approach a complex study that encompasses all the City's expectations outlined in the RFP, meets the overall goals of key public engagement efforts, and most importantly, gives the City an effective tool for future planning. With so many moving parts and competing interests it is easy to lose sight of the overall objectives.

HRC's Team Work Plan provides a well-developed plan as a starting point for moving forward. HRC will review this plan with the City, discuss the applicable Public Engagement Toolkit options, and finalize a complete plan that will be closely followed and tracked to ensure goals are met in a timely manner.

Ultimately, we feel this approach and Work plan is the key that sets our team apart. However, in more simple terms, we have identified the following key elements that will deliver a successful project to the City and its constituents:

1. Communication: Our Team's experience with the City's expectations and Public Engagement Toolkit will be invaluable. Our unique ability to discuss technical aspects while maintaining a professional and courteous demeanor that respects and understands everyone's opinions, truly sets us apart.
2. Expertise: HRC's Team includes numerous key staff known to be leaders in their respective fields.
3. Innovation: This team is at the forefront for new and innovative approaches to engage stakeholders and the public, and our technical experts are leading members of groups and organizations such as ITE. This provides access to and experience with a wide variety of industry leading technologies and approaches.
4. Passion: HRC's Team was carefully selected to include key leaders who are truly passionate about what they do. This results in a truly team-oriented approach whose primary focus is the improve access and safety to the public.
5. Project Management: HRC's Project Management program and philosophy provides essential leadership, especially with complex, large-scale planning and study-related efforts such as this LTA Study. Integrating many competing goals with substantial public engagement, while narrowing towards a common goal, requires substantial experience and focused foresight to navigate.

D. Fee Proposal

Please refer to the separate Fee Proposal document for the fee schedules for our services. As requested in the RFP, we have also included in that document a schedule of hourly rates for HRC staff, as well as an hourly breakdown of how we derived our Fee Proposal.

The key staff members delineated in Section A of this document are referenced by title in the separate Fee Proposal document.

This page is intentionally left blank.

E. Authorized Negotiator

Mr. Charles E. Hart, P.E., Vice President, will be the authorized negotiator for any contracts entered with the City of Ann Arbor. Contact information for Mr. Hart is as follows:

Hubbell, Roth & Clark, Inc.
555 Hulet Drive
Bloomfield Hills, Michigan 48302

Phone: (248) 454-6301
Fax: (248) 454-6312
Email: chart@hrc-engr.com

This page is intentionally left blank.

F. Attachments

ATTACHMENT B
LEGAL STATUS OF RESPONDENT

(The Respondent shall fill out the provision and strike out the remaining ones.)

The Respondent is:

- A corporation organized and doing business under the laws of the state of Michigan, for whom Charles Hart bearing the office title of Vice President, whose signature is affixed to this proposal, is authorized to execute contracts on behalf of respondent.*

  *If not incorporated in Michigan, please attach the corporation's Certificate of Authority

- A limited liability company doing business under the laws of the State of _____,whom _____ bearing the title of _____ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.

- A partnership organized under the laws of the State of _____ and filed with the County of _____ , whose members are (attach list including street and mailing address for each.)

- An individual, whose signature with address, is affixed to this RFP.

Respondent has examined the basic requirements of this RFP and its scope of services, including all Addendum (if applicable) and hereby agrees to offer the services as specified in the RFP.

_____Date: _____,
Signature

(Print) Name Charles Hart Title Vice President

Firm: Hubbell, Roth & Clark, Inc.

Address: 555 Hulet Drive Bloomfield Hills, MI 48302

Contact Phone 248-454-6301 Fax 248-454-6312

Email chart@hrcengr.com

ATTACHMENT C
CITY OF ANN ARBOR DECLARATION OF COMPLIANCE

Non-Discrimination Ordinance

The "non discrimination by city contractors" provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager

The Contractor agrees:

(a) To comply with the terms of the City of Ann Arbor's Non-Discrimination Ordinance and contract compliance administrative policy.

(b) To post the City of Ann Arbor's Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.

(c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.

(d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

Hubbell, Roth & Clark, Inc.
Company Name

Signature of Authorized Representative Date

Charles Hart, Vice President
Print Name and Title

555 Hulet Drive Bloomfield Hills, MI 48302
Address, City, State, Zip

248-454-6301 chart@hrcengr.com
Phone/Email address

Questions about the Notice or the City Administrative Policy, Please contact:
Procurement Office of the City of Ann Arbor
(734) 794-6500

ATTACHMENT D
CITY OF ANN ARBOR
LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than $10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than $10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than $10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here [___] *No. of employees*__

The Contractor or Grantee agrees:

(a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as $13.22/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than $14.75/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

Check the applicable box below which applies to your workforce

[___] Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits

[X] Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits

(b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.

(c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.

(d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.

(e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

Hubbell, Roth & Clark, Inc.
Company Name

555 Hulet Drive
Street Address

_____
Signature of Authorized Representative Date

Bloomfield Hills, MI 48302
City, State, Zip

Charles Hart, Vice President
Print Name and Title

248-454-6301 chart@hrcengr.com
Phone/Email address

City of Ann Arbor Procurement Office, 734/794-6500, procurement@a2gov.org

ATTACHMENT E

VENDOR CONFLICT OF INTEREST DISCLOSURE FORM

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

Conflict of Interest Disclosure*	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	( ) Relationship to employee ( ) Interest in vendor's company ( ) Other (please describe in box below)

*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:		
Hubbell, Roth & Clark, Inc.		248-454-6301
Vendor Name		**Vendor Phone Number**
		Charles Hart
Signature of Vendor Authorized Representative	**Date**	**Printed Name of Vendor Authorized Representative**

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500, procurement@a2gov.org

G. Appendix

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

Charles Hart, P.E.

Vice President | Partner

A Hubbell, Roth & Clark partner, Charles Hart leads HRC's road design department. His experience includes managing and designing complex roadway, roundabout/intersection, bridge and culvert replacement and rehabilitation, municipal utility, and drainage improvement projects. He sets the firm's direction for the successful execution of multi-disciplined projects, while providing his clients with functionally detailed design solutions for immediate concerns and anticipated future needs.

Mr. Hart has extensive experience in road, stormwater and utility design, and project management. Projects include road, bridge and culvert reconstructions, roundabout construction, road, bridge and culvert rehabilitation/resurfacing and widening, transit facility design, corridor studies, environmental assessments, municipal utility construction and pump station rehabilitation. Most of his design and project management work is for federally funded projects following Michigan Department of Transportation (MDOT) guidelines for special provisions and estimating. Other projects include MDEQ Revolving Fund programs or a combination of several funding sources.

EDUCATION

B.S., Civil and Environmental Engineering
University of Michigan 1997

EXPERIENCE

With HRC since 1998
22 years of experience

PROFESSIONAL REGISTRATION/ CERTIFICATION

Professional Engineer, Michigan
No. 48582

AFFILIATIONS

American Public Works Association

American Society of Civil Engineers

Transportation Research Board

PROFESSIONAL EXPERIENCE

MUNICIPAL CONSULTING

- As Needed Design Services – Road Commission for Oakland County (RCOC), City of Farmington Hills, City of Ann Arbor, Wayne County Airport Authority (WCAA), Washtenaw County Road Commission (WCRC)

AIRPORTS AND TRANSPORTATION FACILITIES

- U of M Central Campus Transit Center – U of M AEC & City of Ann Arbor
- DTW Airport Improvements – Wayne County Airport Authority (WCAA)
- Airport East Service Drive Reconstruction and Relocation of Airport West Service Drive & Runway 4R/22L Service Road, Detroit Metropolitan Airport – Wayne County Airport Authority (WCAA)
- Detroit Metropolitan Airport – Miscellaneous Design & Studies– Wayne County Airport Authority (WCAA)

INDUSTRIAL FACILITIES

- Off-Road Testing Course – General Motors – Milford Proving Grounds

ROADS/BRIDGES

- Cedar Island Road Culvert Replacement– Road Commission for Oakland County
- Orchard Lake Reconstruction – City of Farmington Hills & Road Commission for Oakland County
- Gill Road and Colfax Road Reconstruction – City of Farmington Hills
- Geddes Avenue Reconstruction – City of Ann Arbor
- Sashabaw Road & I-75 Interchange Improvements – Independence Township; Road Commission for Oakland County
- Tienken Road Rehabilitation – Road Commission for Oakland County
- Tienken Road Construction – Road Commission for Oakland County
- Martin Luther King, Jr. Boulevard Overlay – City of Pontiac
- Pontiac Trail and 7 Mile Road Roundabout Construction – Washtenaw County Road Commission
- Quarton and Chesterfield Intersection Improvements – City of Birmingham
- Orion Road Bridge Replacement – Road Commission for Oakland County
- 13 Mile Road Concrete Repairs – City of Warren
- Northline Road Reconstruction – Wayne County Airport Authority
- Tamworth Street Bridge Replacement – Road Commission for Oakland County
- US-24 (Dixie Highway) Rehabilitation – Michigan Department of Transportation
- 14 Mile Rehabilitation – Michigan Department of Transportation
- West Stadium Boulevard Reconstruction – City of Ann Arbor
- Rochester Road & Wattles Road Reconstruction – City of Troy
- Cooley Lake Road Widening & Rehabilitation – Michigan Department of Transportation
- 10 Mile Road Rehabilitation – City of Southfield; Road Commission for Oakland County
- Multi-Year Infrastructure Improvement Program – City of Howell
- Grand River Avenue Rehabilitation – City of Farmington Hills
- M-37 and Lake Eastbrook Intersection – Michigan Department of Transportation
- 5 Mile and Newburgh Rehabilitation – City of Livonia
- Abbott Road Reconstruction – City of East Lansing
- D-19 Reconstruction – City of Howell
- Farmington Road Rehabilitation – City of Farmington Hills
- Tienken Road Bridge over Paint Creek – City of Rochester Hills
- Carpenter Road Reconstruction – Washtenaw County Road Commission
- 11 Mile Road Reconstruction – Cities of Oak Park, Berkley and Huntington Woods
- Cooley Lake Road Widening – Road Commission for Oakland County
- Williams Lake Road Relocation – Road Commission for Oakland County
- Sashabaw Road Reconstruction – Road Commission for Oakland County
- Long Lake Road Reconstruction – City of Troy
- Wixom Road Bypass – City of Wixom
- Hatchery Road Widening – Waterford Township
- Big Beaver Road Reconstruction – City of Troy

PARKS AND RECREATION

- Ram Trail Construction – Delhi Township and Ingham County Department of Road

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

Colleen Hill-Stramsak, P.E., PTOE

Associate

Colleen Hill-Stramsak is an associate with Hubbell, Roth and Clark. Inc. where she manages the traffic engineering department and provides municipal traffic engineering services to communities throughout Michigan. She has served as project manager on traffic signal design, signal optimization, transportation studies, road safety audits (RSA), and safety studies following MDOT guidelines. Ms. Hill-Stramsak has completed 12 RSA's for MDOT over the last five years. For federally funded road projects, Ms. Hill-Stramsak prepares traffic control and detours plans, traffic signal design, and signage plans following the current AASHTO, MDOT and MMUTCD guidelines. Ms. Hill-Stramsak has special expertise in traffic crash analyses and applications for safety and CMAQ funding, as well as in conducting asset management reviews of local road networks with clients. Ms. Hill-Stramsak has software proficiency in Highway Capacity Software, Synchro/SimTraffic, CORSIM, RODEL AND VISSIM.

EDUCATION

B.S., Civil Engineering, Transportation
Wayne State University, 2000

M.S., C.E., Transportation
Wayne State University, 2002

EXPERIENCE

With HRC since 2002
18 years of experience

PROFESSIONAL REGISTRATION/ CERTIFICATION

Professional Engineer, Michigan
No. 51514

Professional Traffic Operations Engineer
No. 1427

National Highway Institute Training Program, 2010 – Road Safety Audits/ Assessments

AFFILIATIONS

American Society of Civil Engineers

Institute of Transportation Engineers (Great Lakes District President 2012-2014)

Tau Beta Pi, Engineering Honor Society

Women's Transportation Seminar

Intelligent Transportation Society of Michigan

PROFESSIONAL EXPERIENCE

TRAFFIC STUDIES

- U of M Central Campus Transit Center – U of M AEC & City of Ann Arbor
- Traffic Analysis for West Stadium Blvd. Reconstruction – City of Ann Arbor
- West Avenue and Fourth Street Traffic Study – City of Jackson
- Robina & 12 Mile Rd Street Closure Traffic Study – City of Berkley
- South Monroe St (M-125) Road Diet Traffic Study – City of Monroe
- Traffic Impact Study for Downtown Okemos Planned Unit Development – Brandoff Randle, Meridian Township & Ingham County Road Department
- Revise TIS for The Glen Multi-Use Development – City of Ann Arbor
- Van Dyke (M-53) Road Diet Traffic Study – City of Warren DDA/TIFA
- Traffic Impact Analysis for the Proposed National Street Extension – City of Howell
- Evergreen Rd Road Diet Traffic Study – City of Southfield
- Coolidge Hwy Road Diet Traffic Study – City of Berkley
- Livernois Rd Corridor Study – Road Commission for Oakland County (RCOC)
- Sashabaw Rd Corridor Study –Independence Charter Township & RCOC
- Traffic Impact Study for Costco Warehouse in East Lansing – TJ Design Strategies
- Traffic Impact Study for Costco Truck Depot in Van Buren Township – TJ Design Strategies

Colleen Hill-Stramsak, P.E., PTOE
Associate

PEDESTRIAN STUDIES

- Community Policy on Mid-Block Pedestrian Crossings – City of Wyoming
- Crosswalk Study and Design for 12 Mile and Woodward – City of Berkley

PARKING STUDIES

- Milford Proving Grounds Parking Study – General Motors Corporation
- Providence Park Hospital Parking Study – St. John Providence
- Costco Parking Utilization Study – TJ Design Strategies
- St. Mary Mercy Hospital Parking Lot Traffic Study – Granger Construction
- Warren Technical Center Parking Study – General Motors Corporation
- Westmarket Square Shared Parking Study – City of Novi

SCHOOL STUDIES

- Road Safety Audit for the Proposed Brandon Elementary School – Charter Township of Brandon
- Site Circulation and Traffic Impact Assessment – Yeshiva Beth Yehudah Schools
- Huda School Site Circulation Study – Village of Franklin

SAFETY STUDIES

- Two Regional Traffic Safety Plans – Michigan Department of Transportation (MDOT) Safety
- 12 Statewide Road Safety Audits – MDOT Safety
- M-15 Access Management Plan – MDOT Bay Region
- Dixie Hwy Safety Study – Charter Township of Springfield
- Dixie Hwy (US-24) Crash Analysis – MDOT Oakland TSC

TRAFFIC SIGNAL OPERATIONS

- Phase XI & XII Signal Optimization – City of Grand Rapids
- Traffic Signal Optimization Phase 2 – City of Detroit
- Traffic Signal Optimization for 13 Intersections in Allegan and Cass Counties – MDOT Southwest Region
- Owen road Signal Modernization CMAQ Project – City of Fenton

TRAFFIC AND PEDESTRIAN SIGNAL DESIGN

- Marquette Signal Modernization Project – Johnson Controls
- Pedestrian Mid-Block Crossings – City of Berkley
- Design Build US-12 @ Willow Run Traffic Signals & ITS – Bergmann/Toebe/MDOT
- RAM Trail along Holt Rd – Delhi Charter Township & Ingham County Road Department
- GM Lansing Plant, Olds & MLK (M-99) Traffic Signal – General Motors Corporation & MDOT
- Sprinkle Road Safety Project – Road Commission of Kalamazoo County
- Tienken Rd Rehabilitation, Adams to Livernois – RCOC
- I-75 & Sashabaw Rd Interchange Improvement – Independence Charter Township & RCOC
- Evergreen Rd Reconstruction, 10 Mile to I-696 – City of Southfield
- Farmington Rd Reconstruction, 10 Mile to 11 Mile – City of Farmington Hills
- Improvements to Belleville Rd and Costco Truck Depot Driveway – V3 Companies
- Mack Ave Traffic Signals Design – Wayne County Department of Public Services

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

Lia Michaels, P.E., PTOE

Project Engineer

Lia Michael is a project engineer for Hubbell, Roth & Clark, Inc. She is responsible for the design of traffic signals, conducting optimization studies, performing traffic impact studies for commercial developments, upgrading freeway and non-freeway signs and providing traffic assistance on various projects. Ms. Michaels is proficient in Highway Capacity Software, Synchro/SimTraffic, HCS, RODEL and VISSIM. She has used these programs to analyze individual signalized, unsignalized and roundabout locations, as well as corridors with a combination of all three intersection types.

EDUCATION

B.S., Civil & Environmental Engineering, Michigan State University, 2006

M.S., Civil & Environmental Engineering, Transportation Wayne State University, 2008

EXPERIENCE

With HRC since 2008
12 years of experience

PROFESSIONAL REGISTRATION/ CERTIFICATION

Professional Engineer, Michigan
No. 58922

Professional Traffic Operations Engineer
No. 3347

National Highway Institute Training Program, 2017 – Road Safety Audits/ Assessments (NHI-380069)

AFFILIATIONS

American Public Works Association

American Society of Civil Engineers

Institute of Transportation Engineers

PROFESSIONAL EXPERIENCE

TRAFFIC STUDIES

- U of M Central Campus Transit Center – U of M AEC & City of Ann Arbor
- Grand River Ave Road Diet Study – City of Howell/Michigan Department of Transportation (MDOT)
- Realize Cedar St Complete Streets Study – Delhi Charter Township/Ingham County Dept of Roads
- Fulton & Alpine Road Diet Study – City of Grand Rapids
- Van Dyke (M-53) Road Diet Traffic Study – City of Warren DDA/TIFA
- Grand River Ave & M-5 Corridor Traffic Study – City of Farmington Hills/MDOT
- Orchard Lake Rd Traffic Study – City of Farmington Hills/Road Commission for Oakland County (RCOC)
- Traffic Impact Study of Magneti Marelli Manufacturing – Independence Charter Township/ RCOC
- Rochester Rd Traffic Study for EA Re-evaluation – City of Troy
- Traffic Impact Study for GVSU & Spectrum Health Parking Garage– City of Grand Rapids
- Traffic Impact Study for Ottawa St Ext & Arena South Development – Moore & Bruggink, Inc/City of Grand Rapids
- Evergreen Rd Road Diet Traffic Study – City of Southfield
- 13 Mile Rd, Farmington to Orchard Lake Road Diet Study – City of Farmington Hills
- Burton Street and Forest Hill Intersection Study – City of Kentwood
- West Ave and Fourth St Traffic Study – City of Jackson
- Supplemental Traffic and Needs Study for Tienken Rd Corridor, Sheldon to Dequindre – RCOC
- Warren Technical Center Parking Study – General Motors Corporation

TRAFFIC IMPACT STUDY REVIEWS

- 1140 Broadway - City of Ann Arbor

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

Lia Michaels, P.E., PTOE

Project Engineer

TRAFFIC SIGNAL OPERATIONS

- Phase XI & XII Signal Optimization – City of Grand Rapids
- Traffic Signal Optimization Phase 2 – City of Detroit
- Traffic Signal Optimization for 13 Intersections in Allegan and Cass Counties – MDOT Southwest Region
- Owen Road Signal Optimization – City of Fenton

TRAFFIC SIGNAL DESIGN

- 2016, 2017, & 2018 Signal Modernization Programs – Gifflels/City of Ferndale
- Realize Cedar Reconstruction - Delhi Charter Township/Ingham County Dept of Roads
- Eddington Blvd Realignment at Rochester Rd – City of Rochester Hills
- 4th/Horton/Stonewall Intersection Realignment – City of Jackson
- 9 Mile Rd and Halsted Rd CMAQ Project – City of Farmington Hills
- Safe Routes to School Grants – City of Southfield and Highland Township/RCOC
- Allen Rd and Outer Dr Signal Modernization – Wayne County Department of Public Services (WCDPS)
- Dodge Park Rd Reconstruction, 16 Mile to Utica – City of Sterling Heights
- Sprinkle Rd Safety Project – Road Commission of Kalamazoo County (RCKC)
- West Q Avenue and 10th Street Signal Design – RCKC
- Mack Ave Traffic Signals Design – WCDPS
- Improvements to Belleville Road and Costco Truck Depot Driveway – V3 Companies
- Farmington Rd Reconstruction, 10 Mile to 11 Mile – City of Farmington Hills
- Holmes Rd Reconstruction Phase III – Washtenaw County Road Commission (WCRC)
- Haggerty Rd Reconstruction – RCOC
- Radar Speed Displays Project and Analysis – J. Ranck Electric Inc./City of Rochester Hills

SAFETY STUDIES

- 6 Statewide Road Safety Audits – MDOT Safety
- School Crossing Review – Shelby Township Police Department
- Dixie Hwy Safety Study – Charter Township of Springfield
- Traffic Movement and Safety Study – MAHLE Industries Inc.
- Dixie Hwy (US-24) Crash Analysis - MDOT Oakland TSC
- Safety Studies, Surveys and Program Evaluations – MDOT & OHSP
- Evaluation of Pedestrian Safety in the City of Detroit – MDOT

ROUNDABOUT ANALYSIS AND DESIGN

- Franklin & 11 Mile - City of Southfield
- Scio Church Rd & Wagner – WCRC
- Burton & Forest Hill – City of Kentwood
- Orchard Lake Rd, 4 intersections - City of Farmington Hills/RCOC
- Evergreen Rd, 2 intersections – City of Southfield
- Pontiac Trail & 7 Mile - WCRC

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

Nicholas Nicita, P.E., LEED AP

Staff Engineer

Nicholas Nicita joined Hubbell, Roth & Clark in 2017 as a staff engineer. Mr. Nicita has three years of transportation research experience and six years of project management experience. He has presented at 14 different temporary traffic control plan workshops to promote work zone safety and has assisted in developing guidelines to help standardize procedures and outline best practices. Mr. Nicita has performed traffic impact studies, traffic data collection, crash analyses, and traffic modeling and has also developed pavement marking plans, cost estimates, and project schedules. He is proficient in using Synchro, SimTraffic, Highway Capacity Software, AutoCAD, and MicroStation.

EDUCATION

B.S., Civil Engineering, Transportation
Wayne State University, 2007

M.S., Civil Engineering, Transportation
Wayne State University, 2011

EXPERIENCE

With HRC since 2017
9 years of experience

PROFESSIONAL REGISTRATION/ CERTIFICATION

Professional Engineer, Michigan
No. 63628

Leadership in Energy and Environmental Design Accredited Professional
No. 10547641

AFFILIATIONS

Tau Beta Pi, The Engineering Honor Society

Institute of Transportation Engineers

American Society of Civil Engineers

Engineering Society of Detroit

PROFESSIONAL EXPERIENCE

TRAFFIC IMPACT STUDY REVIEWS

- Cottages at Barton Green - City of Ann Arbor
- U-M Wall Street West Parking Structure- City of Ann Arbor

TRAFFIC STUDIES

- Update the Glen Traffic Impact Study – City of Ann Arbor
- Grand River Ave & M-5 Corridor Traffic Study - City of Farmington Hills/ Michigan Department of Transportation
- Review the UM Wall St West Parking Structure Traffic Impact Study – City of Ann Arbor
- Review of Barton Green Traffic Impact Study – City of Ann Arbor
- Crash Analysis for Design Exception on 13 Mile Road – City of Farmington Hills
- Edinshire and Wildflower Subdivision Speed Studies – City of Rochester Hills
- Van Dyke Ave Mid-block Crosswalk Study – Charter Township of Washington/Macomb Department of Roads
- Traffic Signal Warrant Analysis – City of Pontiac
- Proposed Ford Dealership Traffic Impact Study – Suburban Collection, Waterford Township

TRAFFIC SIGNAL OPERATIONS

- Phase XI & XII Signal Optimization – City of Grand Rapids
- Design Build US-12 @ Willow Run Traffic Signals & ITS – Bergmann/Toebe/MDOT

TRAFFIC & PEDESTRIAN SIGNAL DESIGN

- 9 Mile Rd and Halsted Rd CMAQ Project – City of Farmington Hills

- Highland Rd/M-59 and Hospital Rd – Nowak & Fraus/Michigan Department of Transportation

TRAFFIC SIGNING & PAVEMENT MARKING PLANS

- Hamlin Road Reconstruction – City of Rochester Hills
- Upgrade of Non-Freeway Signing in Grand Rapids and Cadillac TSC - Michigan Department of Transportation

ASSET MANAGEMENT

- PASER Rating – City of Utica
- PASER Rating – Village Beverly Hills

PREVIOUS EXPERIENCE

- Research Associate – Wayne State University – Helped develop and present at 14 different temporary traffic control plan workshops, nationwide, as part of the Federal Highway Administration Work Zone Safety Grant Program. Helped develop non-freeway rumble strip implementation guidelines for the Michigan Department of Transportation and work zone safety guidelines for the Federal Highway Administration. Performed traffic impact studies at various intersections to determine whether the proposed development would be negative on traffic safety or capacity.
- Project Engineer – Walbridge – Executed all aspects of engineering by review construction drawings, specifications, shop drawings, submittals, material status reports, and requests for information to ensure a successful project.
- Graduate Research Assistant – Wayne State University – Aided in developing a pedestrian safety educational program for elementary and middle school students to teach children how to safely walk home from school. Assisted in revising the State of Michigan "What Every Driver Must Know" Secretary of State booklet to incorporate right of way laws for pedestrian crossing and participated in the Drive Safely to Wayne State Campaign to encourage safe driving practices among students and faculty.

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

Christopher Bauer, E.I.T.

Graduate Engineer II

Christopher Bauer is a graduate engineer II at Hubbell, Roth & Clark, Inc. Mr. Bauer's responsibilities include Synchro analysis, preparation of MOT plans and special provisions, traffic signal plans, signing and pavement marking plans, CAD/sign design and CAD work, assistance with road safety audits, crash analysis, and traffic data collection.

EDUCATION

B.S., Civil Engineering,
Transportation & Structures
Michigan State University, 2013

EXPERIENCE

With HRC since 2014
4 years of experience

PROFESSIONAL REGISTRATION/ CERTIFICATION

Fundamentals of Engineering Exam, 2013

Michigan Traffic Sign Inventory System Training, 2014

AFFILIATIONS

Institute of Transportation Engineers

American Society of Civil Engineers (ASCE)

PROFESSIONAL EXPERIENCE

TRAFFIC ENGINEERING

- Traffic System Engineering Support – City of Grand Rapids
- South Monroe Street (M-125) Traffic Study – City of Monroe
- Statewide Road Safety Audit – Michigan Department of Transportation, Safety
- Rochester Road Traffic Study Update – City of Troy
- Guardrail Evaluation and Design – City of Ann Arbor

TRAFFIC SIGNING & PAVEMENT MARKING PLANS

- Sashabaw Rd Widening, Flemings Lake to DTE Energy Dr – Independence Charter Township/RCOC
- Canal Rd Rehabilitation, Van Dyke to Schoenherr – City of Sterling Heights
- Upgrade of Non-Freeway Signing in Grand Rapids and Cadillac TSC - Michigan Department of Transportation
- Realize Cedar Reconstruction - Delhi Charter Township/Ingham County Dept of Roads
- I-75 and Sashabaw Rd Interchange Improvements – Independence Charter Township/RCOC
- Joslyn Rd Reconstruction, Perry to Walton – City of Pontiac
- Upgrade of Non-Freeway Signing in Alpena TSC – Michigan Department of Transportation
- Upgrade of Non-Freeway Signing in Berrien County - Michigan Department of Transportation

TRAFFIC & PEDESTRIAN SIGNAL DESIGN

- 2016, 2017, & 2018 Signal Modernization Programs – Gifflels/City of Ferndale
- Telegraph Rd (US-24) Safety Path - Bloomfield Charter Township/MDOT
- Gratiot/Randolph/Broadway Pedestrian Signals – City of Detroit
- Eddington Blvd Realignment at Rochester Rd – City of Rochester Hills/MDOT

- 9 Mile Rd Road Diet & Reconstruction – City of Southfield
- Allen Rd and Outer Dr Signal Modernization – Wayne County Department of Public Services
- Marquette Traffic Signals – Johnson Controls
- Realize Cedar Reconstruction - Delhi Charter Township/Ingham County Dept of Roads
- 4th/Horton/Stonewall Intersection Realignment – City of Jackson
- Design Build US-12 @ Willow Run Traffic Signals & ITS – Bergmann/Toebe/MDOT
- Dodge Park Rd Reconstruction, 16 Mile to Utica – City of Sterling Heights
- Hoover Rd, 10 Mile to I-696 – City of Warren
- Mack Ave Traffic Signals Design – Wayne County Department of Public Services
- RAM Trail along Holt Rd – Delhi Charter Township
- M-99 and Olds Ave – General Motors Corporation
- Tienken Rd, Adams to Livernois, Rehabilitation – Road Commission for Oakland County
- Improvements to Belleville Rd & Costco Truck Depot Driveway – V3 Companies

AIRPORTS FACILITIES ENGINEERING

- GTC Expansion Joint Repair MOT – Wayne County Airport Authority
- DTW Roadway CPM – Wayne County Airport Authority
- Pond 6 Dredging – Wayne County Airport Authority
- Dingell Drive Retaining Wall Inspection – Wayne County Airport Authority

ASSET MANAGEMENT

- PASER Rating – City of Utica
- PASER Rating – Village Beverly Hills
- PASER Rating – City of Bloomfield Hills
- PASER Rating – City of Berkley
- PASER Rating – City of Jackson

MISCELLANEOUS

- Billboard Co-op – Michigan Department of Transportation, Developmental Services

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

Gentjan Heqimi, E.I.T.

Graduate Engineer I

Gentjan Heqimi is a graduate engineer at Hubbell, Roth & Clark, Inc. His duties include traffic data collection, preparation of traffic impact studies, plan sheet development, Synchro model network development, traffic sign and pavement marking plans, crash analyses and traffic signal design. He has a special expertise in GIS applications to transportation modeling and highway safety. His work also includes resolving design and construction problems, managing budgets and project resources, developing cost estimates and project schedules, and participating in field investigations to diagnose issues

EDUCATION

B.S., Urban and Regional Planning
Michigan State University, 2010

M.S., Urban and Regional Planning (GIS)
Michigan State University, 2012

M.S. Civil Engineering (Transportation)
Michigan State University, 2016

EXPERIENCE

With HRC since 2017
7 years of experience

PROFESSIONAL REGISTRATION/ CERTIFICATION

Fundamentals of Engineering Exam, 2016

National Highway Institute Training Program, 2017 – Road Safety Audits/Assessments (NHI-380069)

Michigan Traffic Sign Inventory System Training, 2017

AFFILIATIONS

Institute of Transportation Engineers

Transportation Research Board

PROFESSIONAL EXPERIENCE

TRAFFIC STUDIES

- Blue Water Bridge 2 Transportation Management Plan – Michigan Department of Transportation
- GM Bowling Green Kentucky Assembly Plant Traffic Study – General Motors
- Grand River Ave Road Diet Study – City of Howell/Michigan Department of Transportation
- Mound Road Corridor Benefit-Cost Analysis – Macomb County/City of Sterling Heights/City of Warren
- Rochester Rd Traffic Study for EA Re-evaluation – City of Troy
- Okemos Traffic Impact Study – Branoff Randle Real Estate
- St. Andrew Catholic Church Traffic Impact Study – Auger Klein Aller Architects

TRAFFIC SIGNING & PAVEMENT MARKING PLANS

- 9 Mile Road and Halsted Road CMAQ Project – City of Farmington Hills
- Gunn Road and Adams Road Roundabout – Road Commission for Oakland County
- Upgrade of Non-Freeway Signing in Grand Rapids and Cadillac TSC – Michigan Department of Transportation
- McNamara Deck GTC Expansion – Detroit Metropolitan Wayne County Airport
- W G Rogell Drive Connector Ramp – Detroit Metropolitan Wayne County Airport

TRAFFIC SIGNAL OPERATIONS

- Phase XI & XII Signal Optimization – City of Grand Rapids
- Marquette Signal Modernization Project – Johnson Controls/City of Marquette

TRAFFIC & PEDESTRIAN SIGNAL DESIGN

- Gunn Road and Adams Road Roundabout – Road Commission for Oakland County
- Design Build US-12 @ Willow Run Traffic Signals & ITS – Bergmann/Toebe/MDOT
- Grand Rapids Traffic Signal Safety Modernization – City of Grand Rapids

SAFETY STUDIES

- Two Regional Traffic Safety Plans – Michigan Department of Transportation Safety
- Two School Safety Studies – City of St. Clair Shores

MISCELLANEOUS

- Graduate Research Assistant – Michigan State University and Wayne State University – Perform research under the direction of transportation engineering faculty. Perform data collection and data analysis related to transportation and traffic engineering. Perform all key GIS tasks and objectives for subject research. Engage in literature research. Specific projects include: Michigan Rural Segments and Intersections SPF Development – Michigan Department of Transportation; Implementation of Decision Framework for ROW Corridor Planning – Michigan Department of Transportation; Safety Evaluation of I-94 Corridor from Indiana State Line to US-127 S – Michigan Department of Transportation; Safety and Operational Impacts of Differential Speed Limits – Montana Department of Transportation
- Project Consultant – Community Housing Integration Portal (CHIP) – Support the CHIP project via the development of project database infrastructure, design and implementation of GIS system architecture, assist in technology procurement and setup, and provide training for CHIP staff.
- Housing Development Analyst – Community Housing Network, Inc. – Identify and analyze real estate projects for financial and site feasibility, negotiate site control, and coordinate projects through the financing, development, and marketing phase. Produce and direct location-based analytics.
- Development Assistant, Acting Program Manager – Community Housing Network, Inc. – Evaluate real estate projects and program activities. Produce analytical studies and provide technical assistance in real estate development.

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

Beata Lamparski

Transportation Planning Specialist

Beata Lamparski is a transportation planning specialist at Hubbell, Roth & Clark, Inc. Her responsibilities include traffic impact studies, safety studies, grant applications, environmental assessments, Section 106 submittals, report writing and support for the firm's traffic engineers. She has considerable experience in crash analyses for design exceptions, road safety audits, signal warrants, RRR projects, environmental assessments, and safety grant applications.

EDUCATION

B.S., Building Science
Rensselaer Polytechnic Institute, 1975

B.A., Architecture
Rensselaer Polytechnic Institute, 1976

M.C.P., Transportation Planning
University of Maryland, 1978

EXPERIENCE

With HRC since 1998
40 years of experience

PROFESSIONAL REGISTRATION/ CERTIFICATION

National Highway Institute, FHWA-NHI-380087 Safety Workshop: Road Safety Audits

Michigan Traffic Sign Inventory System Training, 2014

AFFILIATIONS

Institute of Transportation Engineers

PROFESSIONAL EXPERIENCE

TRAFFIC STUDIES

- Grand River Ave & M-5 Corridor Traffic Study – City of Farmington Hills/MDOT
- GVSU & Spectrum Health Parking Garage – City of Grand Rapids
- Milford Proving Grounds Parking Study – General Motors
- St. Mary Mercy Hospital Traffic Study – Granger Construction
- South Monroe Street (M-125) Road Diet Traffic Study – City of Monroe
- Van Dyke (M-53) Road Diet Traffic Study – City of Warren DDA/TIFA
- Sashabaw Rd Corridor Study – Charter Township of Independence
- U of M Central Campus Transit Center – U of M Architecture, Engineering and Construction
- Squirrel Rd Corridor Study – City of Auburn Hills
- M-15 Access Management Plan – Michigan Department of Transportation Bay Region
- Tienken Rd Corridor Study – City of Rochester Hills
- Downtown Northville Traffic Study – City of Northville

SAFETY STUDIES

- 6 Statewide Road Safety Audits – Michigan Department of Transportation Safety
- Upgrade & Rehabilitation of Permanent Non-Freeway Signing Projects – Michigan Department of Transportation
- Site Circulation and Traffic Impact Assessment – Yeshiva Beth Yehuda Schools
- Dixie Hwy (US-24) Crash Analysis – Michigan Department of Transportation, Oakland TSC

- Traffic Signal Optimization for 13 Intersections in Southwest Region – Michigan Department of Transportation
- Mainline I-696 Safety Analysis – City of Southfield
- Crash Analysis for RRR Road Projects & Design Exception Requests – Various Clients

ENVIRONMENTAL ASSESSMENTS

- Rochester Rd Environmental Assessment Reevaluation – City of Troy
- Orchard Lake Rd Environmental Assessment – City of Farmington Hills
- Tienken Rd Environmental Assessment – Road Commission for Oakland County
- Abbott Rd Environmental Assessment – City of East Lansing
- 26 Mile Rd Environmental Assessment – Macomb County Department of Roads
- Williams Lake Rd Environmental Assessment – Road Commission for Oakland County
- I-75 & Sashabaw Rd Interchange Access Change Request – Charter Township of Independence/RCOC
- I-696, US-24 & M-10 Interchange Access Justification Request – City of Southfield
- Section 106 Applications – State Historic Preservation Office

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

- Connected Vehicle Test Bed – City of Detroit
- MDOT North & Superior Region Design Build, Installation of Environmental Sensor Stations & Dynamic Message Signs – J. Ranck Electric, Inc.
- Regional Concept of Transportation Operations (RCTO) Initiative – Southeast Michigan Council of Governments
- Advanced Traffic Management System – Macomb County Department of Roads
- Macomb County Traffic Operations Center and ITS Master Plan – Macomb County Department of Roads
- Advanced Traffic Information System (ATIS), Detroit Metropolitan Airport in Wayne County – MDOT Taylor Transportation Service Center
- FAST-TRAC ITS Project – Road Commission for Oakland County

GRANT APPLICATIONS

- Eight Category A, Economic Development Grant Applications (Six were funded) – MDOT
- 14 Transportation Enhancement/Transportation Alternatives Grant Applications (Eight were funded) – MDOT/SEMCOG
- Three Recreation Grant Applications (Two were funded) – MDNR
- About 250 Federal Aid Funding Applications – Local Federal Aid Committees
- Many CMAQ and Safety Applications
- Six TIGER Grant Applications (None were funded)

BRAD STRADER, AICP, PTP

Principal

MKSK

BRAD ADVOCATES LINKING LAND USE WITH MULTI-MODAL TRANSPORTATION AND DESIGN TO CREATE VIBRANT PLACES.

Brad has more than 34 years experience in multi-modal transportation and corridor planning with a specialty in linking land use, transportation, design, and regulations. His transportation projects include over 60 corridor, 20 district, and 25 city-wide transportation plans in 12 states. Brad has worked extensively in the city both for the City of Ann Arbor and for U of M on projects including the Ann Arbor Transportation Plan (2009), Reimagine Washtenaw Corridor Plan, Washtenaw Avenue Access Management Plan, State Street Corridor Plan, The Ride (AATA) Park and Ride Evaluation, and most recently led the City's Transportation Commission thru Vision Zero Training in the spring of 2017. Brad is also a frequent lecturer on planning and transportation topics at state, regional and national conferences and training webinars.

PROJECT EXPERIENCE

Downtown Detroit Multi-Modal Transportation Study
Detroit, Michigan

Shaping the Avenue Corridor Plan
Lansing, Michigan

Michigan Avenue TOD Alternatives Analysis Study
Detroit, Michigan

Traverse City Street Design Manual
Traverse City, Michigan

Experience Prior to MKSK:

City of Ann Arbor Transportation Plan
Ann Arbor, Michigan

State Street Corridor Plan
Ann Arbor, Michigan

Re-Imagine Washtenaw Avenue Corridor Plan
Ann Arbor, Michigan

City-wide Multimodal Plan
Lansing, Michigan

Woodward Avenue TOD Plan and Model Code
Detroit, Michigan

Michigan Street Area Corridor Plan and The Rapid Transit Master Plan
Grand Rapids, Michigan

EDUCATION

Michigan State University,
B.S., with Honors, in Urban Planning, 1983

REGISTRATION

Fellow, Institute of Transportation Engineers (FITE); ITE Certified Professional Transportation Planner (PTP); American Institute of Certified Planners

PROFESSIONAL AFFILIATIONS

American Planning Association; Transportation Research Board; Institute of Transportation Engineers

PUBLICATIONS & TRAINING INSTRUCTOR

Complete Streets Training Program Development, MDOT and the Michigan Complete Streets Coalition; National Trainer on Complete Streets for the Alliance for Innovation; MDOT Multi-Modal Design and Delivery Training Instructor; Co-Chair, ITE update of "Recommended Practice: Multi-Modal Transportation Impact Assessments"; Editor, ITE "Recommended Practice: Planning Urban Roadway Systems"; Co-Author, Michigan Handbook "Managing Transportation in Your Community" for MI APA

MKSKSTUDIOS.COM

LAUREN CARDONI

Urban Planner / Transportation Planner

MKSK

LAUREN COMBINES EXPERIENCE IN ADVOCACY AND OUTREACH WITH A PASSION FOR TRANSFORMING STREETS INTO GREAT PLACES TO HELP COMMUNITIES BUILD CONSENSUS AROUND THEIR TRANSPORTATION FUTURES.

Lauren has a history of working on projects of various scales, managing multi-disciplinary teams to develop solutions unique to each place. She draws from a background in urban design, transportation planning, and landscape architecture to translate conceptual ideas and technical data into compelling and relatable materials. Prior to joining MKSK, Lauren worked in transportation planning on a national level, gaining experience working with communities of all different sizes and contexts and helping them to create more sustainable transportation systems.

PROJECT EXPERIENCE

Downtown Detroit Multi-Modal Transportation Study
Detroit, Michigan

Shaping the Avenue Corridor Plan
Lansing, Michigan

Traverse City Street Design Manual
Traverse City, Michigan

Mayfield Road Corridor Multimodal Plan
South Euclid, Lyndhurst, Mayfield Heights, Cleveland Heights, OH

East Grand Rapids Master Plan
East Grand Rapids, Michigan

Experience Prior to MKSK:

Connect Columbus Multimodal Thoroughfare Plan
Columbus, Ohio

Madison in Motion Sustainable Transportation Master Plan
Madison, Wisconsin

Move Louisville Strategic Multimodal Transportation Plan
Louisville, Kentucky

South First Street Complete Street Study
Miami, Florida

Rock Creek East II Livability Study
Washington, D.C.

Williams Drive Corridor Transportation Study
Georgetown, Texas

EDUCATION

Georgia Institute of Technology,
Master of City and Regional Planning, 2013
University of Georgia,
Bachelor of Landscape Architecture, 2011

CERTIFICATION

LEED Green Associate, U.S. Green Building Council

PROFESSIONAL AFFILIATIONS

Association of Pedestrian and Bicycle Professionals
Women in Transportation
Young Professionals in Transportation

BOARDS, COMMISSIONS & PROFESSIONAL ACTIVITIES

Open Streets Columbus

MKSKSTUDIOS.COM

NIKKI POLIZZOTTO

Planner

MKSK

NIKKI IS PASSIONATE ABOUT EQUITABLE COMMUNITY DEVELOPMENT INFORMED BY STRONG EVALUATION METRICS THAT CREATE SUCCESSFUL OUTCOMES.

Nikki is experienced working on transportation projects in Michigan, Washington, and California and extensive experience with community engagement strategies. She is passionate about using research and meaningful engagement to improve the design and livability of cities and neighborhoods. Her background encompasses the research and analysis of commuting patterns and alternative modes of transportation and programming, marketing and managing various forms of public engagement and grant writing. Nikki has led the public involvement on a variety of projects including several "first-last" mile transit projects and corridor redevelopment plans.

EDUCATION

University of Southern California,
Sol Price School of Public Policy, Master of Urban Planning, 2017
University of Puget Sound,
Bachelor of Arts, Cultural Anthropology & Sociology, 2014

PROFESSIONAL AFFILIATIONS

American Planning Association
Associated Students of Planning and Development, Ocean Intellect, Past Member

BOARDS AND COMMISSIONS

Co-Founder of U.S. COurban Design Collective initiatives, 2015-Present

PROJECT EXPERIENCE

Downtown Detroit Multi-Modal Transportation Study
Detroit, Michigan

Shaping the Avenue Corridor Plan
Lansing, Michigan

River Rouge Brownfield Redevelopment
River Rouge, Michigan

East Grand Rapids Master Plan
Grand Rapids, Michigan

East-West Corridor Transportation Study
Grand Traverse County, Michigan

Experience Prior to MKSK:

Go Ave 26- First/Last Mile Strategies for Northeast LA
Los Angeles, California

City of Tacoma 'Stadium In Motion' Program Co-Manager
Tacoma, Washington

University and Live Downtown Community Liaison for Downtown On the Go (Tacoma's Trans. Management Assoc.)
Tacoma, Washington

On Avalon - Economic Development Plan and Small Business Support Program
Wilmington, California

MKSKSTUDIOS.COM

HALEY WOLFE

Designer

HALEY BELIEVES THAT BECAUSE EVERYTHING IS A PART OF THE LANDSCAPE, A LANDSCAPE ARCHITECT MUST KNOW SOMETHING ABOUT EVERYTHING. SHE BELIEVES THAT DESIGNING ON MULTIPLE LAYERS WILL GENERATE SITES THAT ARE BOTH BEAUTIFUL AND SUSTAINABLE.

Haley's foundation in hospitality and mixed-use development drives her to create environments that are as memorable as they are functional. Her additional experience in hand-drawing fosters an intimate relationship with her designs and allows her to communicate in real-time. This background informs Haley's process from initial concept design to final construction of both private and public projects.

EDUCATION

The Ohio State University,

Bachelor of Science Landscape Architecture, 2014

PROJECT EXPERIENCE

Planned Urban Development
Washington Township, Michigan

East Grand Rapids Master Plan
East Grand Rapids, Michigan

Medline Site Plan and Traffic Review
Romulus, Michigan

Vining Road Subarea Plan
Romulus, Michigan

City of Birmingham: Multi-Modal Transportation & Parking Study Consulting
Birmingham, Michigan

M-75 Access Management Ordinance
Boyne City, Michigan

M-83 Corridor Study
Saginaw County, Michigan

Shaping the Avenue Corridor Plan
Lansing, Michigan

Eber White Elementary School Playground
Ann Arbor, Michigan

Open School Playground
Ann Arbor, Michigan

JEFF BRYAN, PLA, ASLA, LEED AP

Senior Associate

MKSK

JEFF DRAWS INSPIRATION FROM AN INTEGRATED AND COLLABORATIVE PROCESS WITH CLIENTS AND ALLIED DISCIPLINES TO ACHIEVE EFFECTIVE AND RESPONSIVE DESIGN SOLUTIONS THAT ARE SENSITIVE TO THE HUMAN EXPERIENCE AND IMPACT UPON THE NATURAL ENVIRONMENT.

Jeff has more than 30 years of comprehensive experience in landscape architecture, planning, and urban design with consistent leadership of multi-disciplined teams throughout the project process from initial client contact and scope definition to programming, master planning, conceptualization, detailed design, and various construction phases and delivery methods. His experience includes a wide range of projects from community planning and transportation/streetscape design, to parks and recreation facilities and urban civic works.

EDUCATION

The Ohio State University,

Bachelor of Landscape Architecture, 1986

REGISTRATION

Registered Landscape Architect, Ohio

LEED Accredited Professional, U.S. Green Building Council

PROFESSIONAL AFFILIATIONS

American Society of Landscape Architects (ASLA)

ASLA Sustainable Design Professional Practice Network

PROJECT EXPERIENCE

Downtown Streetscape Implementation
Lexington, Kentucky

Convention Center Expansion and Streetscape
Columbus, Ohio

Short North Streetscape Improvements
Columbus, Ohio

Livingston Avenue Roadway Improvements
Columbus, Ohio

The Ohio State University John H. Herrick Drive Extension
Columbus, Ohio

OSU South High Rises Addition/Renovation- 12th Avenue
Columbus, Ohio

I-70/71 Columbus Crossroads Interchange Enhancements Phases 2, 3 and 4
Columbus, Ohio

Franklin County Courthouse & Government Center Streetscapes
Columbus, Ohio

Hamilton Road/Eastland Area Study
Columbus, Ohio

Joshua Salazar, PE

Sr. Project Manager Engineering

Joshua is an experienced project manager with over 13 years in both the public and private sector leadership. Mr. Salazar has led large multi-modal corridor projects and program management tasks through the production of design alternatives, roadway plans, typical sections, capital cost estimates, evaluation of traffic and environmental impacts, and comprehensive stakeholder outreach. He is an active member of the Michigan chapters of COMTO and ACEC.

EDUCATION
Bachelor of Science, Civil Engineering, University of Michigan, 2004

Master of Administration, Public Administration, Florida Atlantic University, 2009

REGISTRATIONS
Professional Engineer, Florida, United States, No. 69976, 2009

Professional Engineer, Michigan, United States, No. 6201062335, 2015

INDUSTRY TENURE
7 years

HDR TENURE
6 years

OFFICE LOCATION
Ann Arbor, Michigan

RELEVANT EXPERIENCE

Florida Department of Transportation District 4, I-95 Broward Mobility Planning Study
Directed collaborative planning effort to establish I-95 corridor mobility plan focused around Integrated Corridor Management. Included data analysis of highest utilized transportation assets co-located within I-95 corridor and performance measures for integration of enhanced transportation investments (Bus service ridership, commuter rail ridership, Park & Ride lot utilization, Freeway capacity analysis, intersection capacity analysis, and ped/bike facility inventory)
Role: FDOT Project Manager

Louisville Metro Government, Transforming Dixie Highway
Joshua provided grant writing assistance to Louisville Metro in the development of a TIGER VII Discretionary Grant application to USDOT for proposed improvements to Dixie Highway, which included ITS/Signal System and Technology Upgrades, Complete Streets and Safety/Access Management Improvements and Bus Rapid Transit. The work included a detailed project description/operational analysis of proposed BRT system, preparation of cost estimates and Benefit Cost Analysis, and preparation of application narrative. The TIGER grant was successful and was awarded $16.9 million dollars.
Role: Project Engineer

Florida Department of Transportation-District 4, Broward Blvd Multi-Modal Corridor Improvements
The Broward Blvd Multi-Modal Corridor included partnerships between Florida Department of Transportation, Broward County Transit, Broward Metropolitan Planning Organization, and South Florida Regional Transportation Authority to study premium transit options for Broward Boulevard to increase corridor mobility, increase access to transit and increase transit ridership along the corridor. Joshua led the evaluation of geometric and traffic operational improvements in the corridor to provide transit infrastructure elements to support initiatives supporting the proposed new express bus service along the 12 mile corridor. HDR also developed bus operations plans for proposed service enhancements with the existing local service, the proposed express bus service, and integration with external transit supportive projects along corridor. HDR led the design phase for infrastructure improvements identified in the planning phase, including signalization, park & ride, transit signal priority, bus only intersections, and new bus stations/shelters.
Role: Lead Engineer

Broward Metropolitan Planning Organization, University Drive Transit and Mobility Planning Study
Conducted a Transit Planning Study with criteria combining congestion management and livability planning to evaluate premium transit improvements in the 30+ mile University Drive corridor. The project included three phases with high level screening of needs, available alternatives, and the recommended option for a Locally Preferred Alternative under the MAP-21 guidelines. Managed the travel demand forecasting, market analysis, transit alternative analysis, conceptual design, and financial analysis plan with funding options for phased investments of premium transit along University Drive.
Role: HDR Project Manager

Florida Department of Transportation District 4, Districtwide PD&E Program Management
Joshua provided professional engineering and environmental NEPA support services to District 4's Project Development and Environment (PD&E) Section with this continuing service contract. HDR performs a wide range of services including research and technical assistance supporting FDOT in obtaining Federal NEPA approval for projects under jurisdiction of Lead Agencies FHWA, FTA, and/or FRA. Assignments also include Planning and Environmental Linkage reports for scoping upcoming PD&E projects with consideration of early transportation planning, data collection, and environmental activities; Concept Development Reports including preliminary traffic analysis, engineering, cost estimates, and identification of environmental or other evaluations for candidate projects, as well as multi-disciplinary support for PD&E program streamlining and process management improvements. Joshua has managed tasks involving the SHRP2 Expediting Project Delivery Implementation tasks, regional noise barrier database management, environmental screening of upcoming projects including planning and environmental linkage, preliminary environmental discussions, and Purpose & Need development.
Role: Task Lead

Florida Department of Transportation District 4, Districtwide Transit Corridor Planning
HDR provided professional transit planning and engineering services to support District 4's Mobility Development Section with assignments ranging from advancing capital transit development, alternatives analysis through preliminary engineering and environmental analysis. Joshua managed tasks involving technical review of on-going transit planning/design projects, operations & maintenance cost estimating procedures, transit ridership analysis, conceptual engineering, freight rail capacity and facility analysis, and interagency coordination.
Role: Task Lead

City of Detroit Department of Public Works, Inner City Greenway Multi-Modal Enhancement Plan TIGER Grant
HDR performed an economic analysis and provided documentation in support of a TIGER grant application for Multi-Modal Enhancement Plan of the Inner City Greenway, a 26-mile, non-motorized pathway that connects several neighborhoods to job and educational opportunities and a range of other destinations.
Role: HDR Project Manager

Interurban Transit Partnership (The Rapid), Streetcar Route Refinement Study
The Rapid initiated the study to determine if the streetcar alignment recommendation from a 2008 feasibility study was still the best alignment given economic and development changes that had occurred. A summary of the capital and operating financial strategies used by similar streetcar project around the country was provided. A detailed review was included of the financial strategy being used by M-1 Rail in Detroit with the focus on public-private partnership to implement the streetcar project. The final report provided a series of conceptual financial strategies reflecting different levels of federal state local and private participation.
Role: Project Engineer

Florida Department of Transportation District 4, Wave Streetcar Program Management, FDOT District 4, *Fort Lauderdale, FL*
As the Program Management Consultant (PMC) reporting directly to FDOT, Joshua and HDR implemented the inter-governmental agreement with the Wave partnership that included Fort Lauderdale's DDA, the City of Fort Lauderdale, FDOT, Broward County, and the Broward MPO. Responsibilities included full-service project management public involvement preliminary engineering procurement support plan reviews and ultimately construction engineering and inspection. Joshua reviewed Broward County Transit system ridership on affected routes for reporting, and developed the FTA required program documents (with applicable updates) for the Safety & Security Plan and Project Management Plan.
Role: Project Engineer

Jason Carbee, AICP

Transportation Planner

Jason is a Transportation Planner who has served as Project Manager and Task Manager on a wide range of multi modal travel demand forecasting applications, model development; transportation environmental analyses; and long range transportation planning projects for various clients. His projects include establishing, upgrading and validating regional travel models (most recently in TransCAD and Citilabs Cube software packages). This work focuses on refining each step of existing travel models, developing new models, refining travel model output for development of travel forecasts, and application of models for performance measurement.

EDUCATION
Master of Science, Urban Planning (Urban and Regional Planning), University of Iowa1996

Bachelor of Arts, Economics (Economics and Sociology), Cornell College, 1994

REGISTRATIONS
American Institute of Certified Planners, No. 013784

INDUSTRY TENURE
21 years

HDR TENURE
10 years

OFFICE LOCATION
Omaha, NE

PUBLICATIONS & PRESENTATIONS
"Planning For Autonomous and Connected Vehicles in the Omaha-Council Bluffs Area", Nebraska APWA Conference, 2017. Carbee, Jason and Youell, Greg

"Getting Ahead of Performance Measure Curve with New Data and Techniques", Mid-Continent Transportation Research Symposium, 2015, Carbee, Jason and Felschow, Michael. Paper and Presentation

"Performance-Based Assessment of Community Engagement Techniques for Long Range Transportation Plans", 15TH TRB National Tools Of The Trade Conference, 2016, Carbee, Jason and McClure, Theresa

"Data Sources for Travel Model Development and Validation", Presentation to Midwest Travel Model Users Group, 2013
"Case Study of MPO Model Best

RELEVANT EXPERIENCE

Metropolitan Area Planning Agency and Nebraska Department of Transportation, Metro Area Travel Improvement Study, *Omaha, NE*
HDR is conducting a comprehensive regional transportation planning study for the Omaha metropolitan area in coordination with the Metropolitan Area Planning Agency (MAPA) and the Nebraska Department of Transportation (NDOT). Significant travel demand model upgrades were completed to support the study, including:

- Custom scripting to support scenario analyses, including a range of potential Automated Vehicle scenarios. The scenarios looked at different levels of volume-delay function adjustments due to decreased vehicle headways, and different travel demand adjustments in response to technology change.
- Developing an income-based trip distribution module, specified based on MAPA's 2009 National Household Travel Survey (NHTS) Add-On Sample, and validated against AirSage mobile phone patterns.
- Establishing a truck model.
- Model updates to support a range of mobility, safety, accessibility, and environmental stewardship performance measures.
- Development of a TransModeler simulation of over 100 miles of roadway network in the Omaha metropolitan area.

Role: Planning & Model Lead

Morgantown Monongalia Metropolitan Planning Organization, I-79 Access Study, *Morgantown, WV*
The Access Study evaluated the connectivity needs between the urban core and I-79 across the Monongahela River. HDR was tasked with improving the capabilities and overall performance of the MMMPO travel model, including incorporating AirSage mobile phone origin-destination data into an enhanced trip distribution element, adding a time-of-day / peak period model component to the model, and developing a TransCAD-based graphical-user interface for each model step and set of parameters, and significantly improving the model validation.
Role: Model Development Lead

City of New York, For-Hire Vehicle Congestion, Traffic, and Vehicle Emissions Study. *New York, NY*
Jason was the team's travel demand modeling lead, which used the New York Best Practices Model (BPM) and other data sources to evaluate the impact of "for-hire vehicles", including taxis, black car services, and app-based services like Uber and Lyft. The study evaluated the effects these for-hire vehicles have on congestion and on transit mode share.
Role: Travel Demand Modeling Lead

Practices Review", Presentation to Midwest Travel Model Users Group, 2012

"GIS Applications Within Traffic Simulation Projects", Institute of Transportation Engineers 2002 Annual Meeting and Exhibit, Carbee, Jason and Trueblood, Michael. Paper and Presentation

Metropolitan Area Planning Agency (MAPA), On-Call Modeling, *Omaha, NE*
HDR has been retained by the MAPA since 2013 to provide on-call assistance with regional travel demand model updates and travel forecasting assistance. During the current four-year contract, HDR has worked closely with MAPA staff to use the MAPA model and enhance and expand the model's capabilities, with the ultimate goal of helping MAPA staff enhance their internal modeling skills.
Role: Project Manager

Bismarck-Mandan Metropolitan Planning Organization, Model Review Study and Socio-Economic Update, *Bismarck, ND*
HDR was retained by the Bismarck-Mandan MPO for a study to provide updates to their 2015 and 2045 travel demand models. These updates will include:

- Reviewing and providing a best practices assessment of the MPO's travel demand model
- Developing regional projections of future socio-economics, including employment, population and households by type for multiple growth scenarios.
- Working through a process to allocate future growth to the Transportation Analysis Zone (TAZ) geography for the region.

The outcome of the project will include a validated and calibrated best-practices model for the region, and a locally-tailored set of socio-economic projections that reflect land use scenarios that will be a part of their 2045 Metropolitan Transportation Plan.
Role: Project Manager

Jon Markt, PE

Traffic/Transportation Planner

Jon Markt serves as a traffic and transportation planner specializing in transportation planning and analysis and primarily works on developing transportation planning, safety and operations models to support state DOT's and MPO's in a variety of software platforms (Citilabs Cube Voyager/Avenue, Caliper's TransCAD/TransModeler and PTV's Vissim). He is highly skilled in travel demand model development and forecasting, having worked on dynamic traffic assignment (DTA) models for multiple Midwestern regions and presents at national conferences regarding innovations to transportation planning and modeling. Jon also has expertise in the area of data collection for transportation planning studies.

EDUCATION
Master of Science, Civil Engineering, University of Texas at Austin, 2011

Bachelor of Science, Civil Engineering, University of Nebraska, Lincoln, 2011

REGISTRATIONS
Professional Engineer, Nebraska, United States, No. E-16144

INDUSTRY TENURE
8 years

HDR TENURE
5 years

OFFICE LOCATION
Omaha, NE

RELEVANT EXPERIENCE

Noddle Companies, West Farm/South Farm Development Traffic Study and Design, *Omaha NE*
HDR provided transportation planning, traffi operations and design services for a large multi-use development projected to generate roughly 48,000 trips within a mature transportation network. The study required application of the metro's travel demand model and data linkages between the travel demand model output to traffic analsysi tools Synchro and TransModeler. Jon served as the travel demand modeler to generate changes in trips on the surrounding network and supervised development in TransModeler to assess freeway operations.
Role: Model Task Manager

MAPA/NDOR, Metro Area Travel Improvement Study (MTIS), *Omaha, NE*
HDR is conducting a comprehensive regional transportation planning study for the Omaha metropolitan area in coordination with the MAPA and NDOR. The MTIS study is being used as the rigorous technical component for MAPA's 2050 Long Range Transportation Plan, and as an update to NDOR's Freeway Master Plan for the Omaha region.

Mr. Markt supervised model development of a microsimulation model covering freeways and major arterial roadways throughout the Omaha metro area. The model serves as a tool to identify transportation improvements that solve mobility problems in the metro area rather than shifting congestion to parallel corridors.
Role: Model Task Manager

Iowa DOT, Council Bluffs Interstate System PM/GEC, *Council Bluffs, IA*
The Council Bluffs Interstate System program will invest $1.2 billion over the next decade into the expansion of Interstates 29 / 80 through Council Bluffs to an ultimate 12-lane configuration. Jon has led the development of a microscopic DTA model using TransModeler software to act as a decision support tool to identify impacts on the Council Bluffs area Interstate motorists due to construction related activities and construction schedule changes. Model development included performing a sub-area extraction of the MAPA travel demand model origin-destination matrix estimation (ODME) utilizing cell phone-based origin destination date and model speed validation using Bluetooth collected speed data.
Role: Model Developer

MAPA, On-Call Modeling, *Omaha, NE*
HDR has served as the on-call modeling consultant for the Omaha metropolitan area in coordination with the Metropolitan Area Planning Agency (MAPA) since 2013. Jon has worked as a part of the team that closely coordinates with MAPA staff on efforts

to expand the agency's model capabilities. The HDR team has enhanced the MAPA model transit component and the model's freight forecasting capabilities. Jon primarily works on the application of the model for project-level analysis and forecasting.
Role: Model Application

City of Omaha, 168th Street Dodge to Maple, *Omaha, NE*
HDR has developed a design that will address the goals of this project including providing a safe and efficient corridor between W. Dodge Road and W. Maple Road, minimizing impacts on adjacent properties, developing support and trust of the stakeholders, and preparing to deliver this project to the citizens on schedule to support the growth in this region. The two-mile project included widening the existing three lane section to a median-divided four lane section with dedicated left turn bays.
Role: Model Application/Traffic Analysis

South Dakota DOT, I-229 Major Investment Study, *Sioux Falls, SD*
Conducted a major investment corridor study along Interstate 229 and its service interchanges and crossroads focused on level of service throughout the I-229 corridor and identified areas not in compliance with current interstate design standards. The study included a traffic level of service analysis for existing and future (2025 & 2035) conditions and a safety analysis that included a long-range plan consisting of feasible solutions to address portions of the interstate system that fail to meet design standards and/or may have current or potential safety issues.
Role: Traffic and Model Task Lead

Dallas Area Rapid Transit (DART), General Planning Consultant, *Dallas, TX*
HDR serves as DART's consultant to provide a broad range of transit planning services, including corridor planning, system planning, service operations plans, ridership modeling, and financial analysis services. Under this agreement, DART requested HDR to develop a TransModeler simulation of the downtown Dallas sub-area as a decision support tool in planning for the $1.0 billion Dallas Central Business District Second Light Rail Alignment. Mr. Markt created the model development plan for this multimodal, DTA microsimulation model, provided advisory support, and comprehensively reviewed the model to confirm the model's quality of calibration.
Role: Model Supervisor

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

JASON T. WHITTEN

TRANSPORTATION PLANNER (LANSING, MI OFFICE)

Mr. Whitten has 17 years of experience working as a Senior Transportation Planner and Project Manager for various transportation projects. He has been involved in more than 35 transportation planning projects for local agencies. His transportation expertise, extensive knowledge, and experience span numerous disciplines including traffic analysis, signal analysis, capital planning, transit facilities, road design, construction cost estimating, funding source investigation, public involvement, community and stakeholder engagement, access management and land use planning, preparation of plans and technical reports. Mr. Whitten has been involved with several city-wide transportation studies, complex corridor studies, and multi-modal studies.

EDUCATION

B.S. Urban Planning, Northern Michigan University, 1999

CERTIFICATIONS

Categorical Exclusion, ODOT, #12-061-CE, 2012

SPECIAL TRAINING

PSMJ Project Manager Training

Level I Community Planning Workshop Certificate, Michigan Society of Planning Officials

Wilderness Steward Program, Wilderness Education Association

Introduction to Traffic Modeling and Practical Applications for Synchro/Corsim, Highway Traffic Safety Programs, Michigan State University

DLZ Roundabout Seminar, Lansing, Michigan

PROJECT EXPERIENCE

- **Fuller Road/Maiden Lane/East Medical Center Drive Intersection Improvements – City of Ann Arbor, Michigan.** Transportation Planner. Intersection study for high traffic volume intersection located at the main entrance to University of Michigan Medical Center. Project also included design of a multi-use path and pedestrian bridge over the Huron River. DLZ services included review of prior studies, traffic studies, concept design, assessment of non-motorized operations/facilities, stakeholder engagement, transit planning elements, and grant application assistance.

- **M-11/Wilson Road/Remembrance Road, City of Walker, Michigan.** Transportation Planner. This project included concept development and design of a multi-lane roundabout. Extensive traffic modeling was performed to ensure the surrounding intersections would function properly with the new roundabout. Design of the project included developing several concepts to accommodate non-motorized facilities, drainage analysis, utility coordination, maintenance of traffic, pavement marking and signing. Project included public outreach and coordination with emergency services located along Remembrance Road.

- **State Road at Ellsworth Road Roundabout Design, Ann Arbor, Michigan, City of Ann Arbor and Washtenaw County Road Commission.** Transportation Planner. Traffic analysis, concept design, preparation of plans/bid documents, municipal utility design, construction assistance, and comprehensive community engagement program for multi-lane roundabout. Extensive updates to site drainage and relocation of utilities, including a large section of transmission watermain. Complete street elements and context-sensitive solutions included on-street bike lanes, non-motorized pathways, lighting, and access management.

- Marquette Hospital Transportation Improvements Project, Marquette, Michigan. Transportation Planner. The project involved design of three roundabout intersections for the new Marquette Hospital campus on US-41/M-28. Project included traffic studies, alternatives analysis, preparation of an Environmental Assessment (EA), topographic and hydraulic survey, geotechnical engineering, utility relocation and design, roadway design for three roundabouts, traffic signal design, drainage design, complex hydraulic analysis, structural design, lighting design, design of non-motorized facilities, and construction cost estimates.

- **Southfield Road Improvement Project and Early Preliminary Engineering Study. Oakland County, Michigan, Road Commission for Oakland County.** Transportation Planner, Roundabout Designer. Engineering study and environmental clearance for a 3.5-mile segment of Southfield Road (from Mt. Vernon Road to 13-mile Road) through the communities of Southfield, Lathrop Village, Beverly Hills, and Southfield Township. Project included I-696 interchange and coordination with MDOT. DLZ services included traffic studies, development of roundabout alternatives, preparation of Environmental Assessment documentation and studies, and community engagement. Traffic analysis/modeling included for six road segments, 15 intersections and interchange with I-696.

- **Michigan Department of Transportation US-10 Business Route Corridor Study – Midland, Michigan.** Project Manager. A comprehensive traffic study for the US-10 Business Route (BR) corridor through the City of Midland. The purposes of the project were to identify potential corridor improvements that would accommodate future traffic volumes, enhance safety, increase connectivity to Downtown Midland and Discovery Square, improve non-motorized mobility and eliminate barriers for bicyclist/pedestrians, and support economic development within the corridor.

- **US-127/US-127 BR Operational Improvement Study, Mt. Pleasant, Michigan.** Transportation Planner. DLZ was contracted by the Saginaw Chippewa Indian Tribe (SCIT) to study potential roadway improvements and improve access to existing and future tribal gaming and support facilities. As a part of this study, three road options were designed to provide access to Tribal properties and provide a connection to properties north and south of M-20. The In addition, DLZ was contracted to provide concept design for a boulevard cross-section and five roundabout intersections along M-20 between US-127 to the west and Tribal property. DLZ also helped facilitate future development/site layout of the Tribal properties and provided recommendations for phasing the construction based on the proposed site development plans.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

WESLEY A. BUTCH

SENIOR TRANSPORTATION PLANNER (LANSING, MI OFFICE)

Mr. Butch has been involved with many dozens of complex traffic and road improvement projects. His transportation planning expertise, extensive knowledge, and experience span numerous disciplines including non-motorized facilities, roundabout design, traffic analysis, signal analysis, transit facilities, road concept designs, construction cost estimating, funding source investigation, public involvement, community and stakeholder engagement, access management and land use planning, preparation of plans and technical reports, environmental clearance documentation, and traffic signal design. He has extensive experience planning and implementing inclusive community engagement programs for transportation projects, including many that were controversial.

EDUCATION

Master of Public Affairs, Indiana University, 1994

B.A., Albion College, 1991

ADVANCED TRAINING

Public Involvement Techniques for Transportation Decision-Making, National Highway Institute

Modern Roundabout Design, R. Barry Crown (Rodel Software)

Reducing Traffic Congestion and Improving Traffic Safety Through Access Management, MDOT and Michigan Society of Planning

Environmental Justice Workshop, FHWA and FTA

Designing Streets for Walkable Communities, Oakland County

Pedestrians and Bicycles: Safety, Planning & Design, Michigan State University

PROJECT EXPERIENCE

- **Fuller Road/Maiden Lane/East Medical Center Drive Intersection Improvements – City of Ann Arbor, Michigan.** Project Manager, Roundabout Designer. Intersection study for high traffic volume intersection located at the main entrance to University of Michigan Medical Center. Project also included design of a multi-use path and pedestrian bridge over the Huron River. DLZ services included review of prior studies, traffic studies, concept design, assessment of non-motorized operations/facilities, stakeholder engagement, transit planning elements, and grant application assistance.

- **Ann Arbor Station Concept Site Design and Environmental Review, City of Ann Arbor, Michigan.** Senior Planner. Conceptual planning study for a new multi-modal train station. DLZ was responsible for performing all site design work consistent with applicable site design criteria, participating in the public engagement process, assisting with the preparation of an Environmental Assessment, and ecological/environmental studies.

- **State Road at Ellsworth Road Roundabout Design, Ann Arbor, Michigan, City of Ann Arbor and Washtenaw County Road Commission.** Roundabout Designer. Traffic analysis, concept design, preparation of plans/bid documents, municipal utility design, construction assistance, and comprehensive community engagement program for multi-lane roundabout. Extensive updates to site drainage and relocation of utilities, including a large section of transmission watermain. Complete street elements and context-sensitive solutions included on-street bike lanes, non-motorized pathways, lighting, and access management.

- **Dearborn West Downtown Streetscape Study and Design, City of Dearborn, Michigan.** Senior Transportation Planner. This project involved a detailed study and design for streetscape improvements on Michigan Avenue in Dearborn. Services included traffic studies, public/stakeholder engagement, concept design, design development plans, construction documents, and geotechnical analysis.

- **Midland Downtown Streetscape Study and Design, City of Midland, Michigan.** Senior Transportation Planner, Public Outreach Specialist. This project involved a detailed study and design for streetscape improvements on Main Street in Midland. Services included traffic studies, public/stakeholder engagement, surveying, concept design, design development plans, construction documents, and geotechnical analysis. Design process was completed on a very expedited schedule.

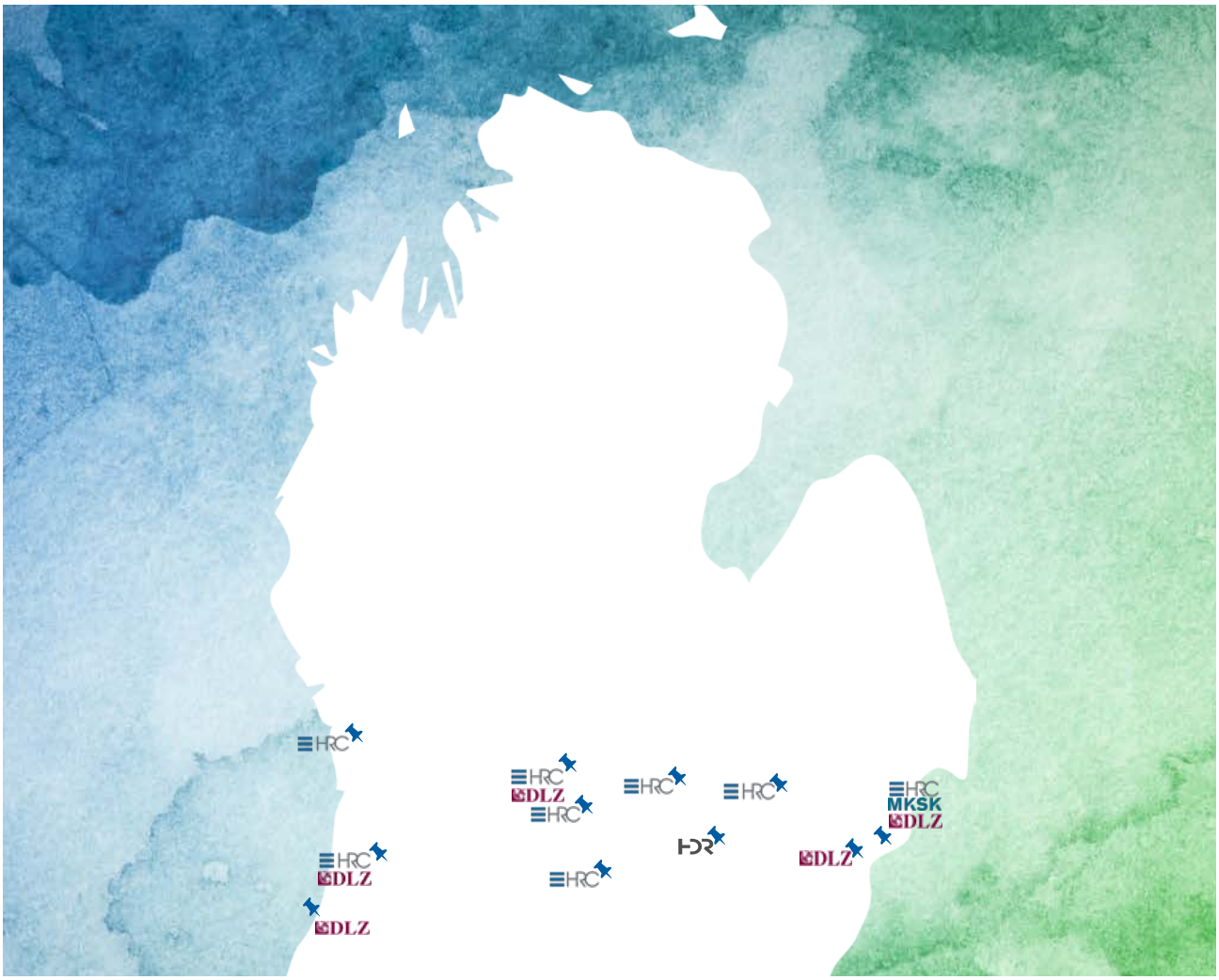
- **Marquette Hospital Transportation Improvements Study and Design – City of Marquette, Michigan.** Project Manager. Comprehensive studies and design for major road and non-motorized improvements to support relocation of regional hospital. Main tasks included preparation of an Environmental Assessment, survey, geotechnical engineering, utility relocation and design, roadway design, traffic signal design, drainage design, complex hydraulic analysis, structural design, lighting design, design of non-motorized facilities, and construction cost estimates. Work also included extensive public/stakeholder coordination.

- **Traverse City Corridors Master Plan, City of Traverse City, Michigan.** QA/QC Reviews. Performed reviews for roadway and non-motorized transportation improvements in four corridors in the City of Traverse City. Project included review of implementation of complete street elements and context sensitivity analysis.

- **Ann Arbor Bike Share Station Design, Ann Arbor, Michigan, Ann Arbor Area Transportation Authority.** Senior Planner. This was a pilot project for the development of an urban bike sharing system. Services provided by DLZ include topographic survey and site mapping, conceptual site layout plans, engineering design and construction documents, obtaining City of Ann Arbor Right-of-Way Encroachment License Agreements' bid documents, estimates of probable construction cost, and construction administration. Worked cooperatively with a coalition of local partners.

- **Michigan Department of Transportation US-10 Business Route Corridor Study – Midland, Michigan.** Senior Planner. A comprehensive traffic study for the US-10 Business Route (BR) corridor through the City of Midland. The purposes of the project were to identify potential corridor improvements that would accommodate future traffic volumes, enhance safety, increase connectivity to Downtown Midland and Discovery Square, improve non-motorized mobility and eliminate barriers for bicyclist/pedestrians, and support economic development within the corridor.

- **Southfield Road Improvement Project and Early Preliminary Engineering Study. Oakland County, Michigan, Road Commission for Oakland County.** Project Manager, Roundabout Designer. Engineering study and environmental clearance for a 3.5-mile segment of Southfield Road (from Mt. Vernon Road to 13 Mile Road) through the communities of Southfield, Lathrop Village, Beverly Hills, and Southfield Township. DLZ services included traffic studies, development of roundabout alternatives, preparation of Environmental Assessment documentation, and community engagement.



Office Locations

HRC

Bloomfield Hills
555 Hulet Drive
Bloomfield Hills, MI 48302
(248) 454-6300 | Fax: (248) 454-6312

HDR

Ann Arbor
5405 Data Court
Ann Arbor, MI 48108-8949
(734) 761-9130 | Fax: (734) 761-9881

MKSK

Detroit
4219 Woodward Ave, Suite 305
Detroit, Michigan 48201
313 652 1101 Phone | 859 957 0950 Fax

DLZ

Detroit
607 Shelby St. Ste 650
Detroit MI 48226 Office: 313.961.4040
Fax: 313.961.4086