Proposal to the Southwest Michigan Planning Commission

Napier Corridor Pedestrian and Bicycle Feasibility and Conceptual Engineering Plan

Toole Design Group

June 13, 2017

TooleDesignGroup

212 Third Avenue North,
Suite 476
Minneapolis, MN 55401
612.584.4094
www.tooledesign.com

June 13, 2017

Ryan D. Fellows, Associate Planner
Southwest Michigan Planning Commission
376 W. Main Street, Suite 130
Benton Harbor, MI 49022

Re: Request for Proposals – Napier Corridor Pedestrian and Bicycle Feasibility and Conceptual Engineering Plan

Dear Mr. Fellows and Members of the Selection Committee:

Toole Design Group, LLC (TDG) is pleased to submit this response to the Request for Proposals (RFP) to provide planning and design services for the Napier Corridor Pedestrian and Bicycle Feasibility and Conceptual Engineering Plan. The individuals we have selected to work on this project have outstanding experience in bicycle- and pedestrian-oriented planning and design, including bicycle and pedestrian route planning, transit system access planning and design, stakeholder and public engagement, roadway design, wayfinding, and urban design at national, state, and local levels. Founded in 2003, TDG is the nation's leading planning, engineering, and landscape architecture firm specializing in bicycle and pedestrian design, and many members of the project team have worked on bicycle- and pedestrian-oriented corridor studies in suburban contexts.

Hannah Pritchard, P.E., PTOE, will serve as the Project Manager and the Southwest Michigan Planning Commission's (SWMPC) main point-of-contact. Hannah is a senior traffic engineer and has more than 10 years of experience working on and managing active transportation projects and corridor studies, with extensive experience working in Michigan and the Midwest. **KC Atkins, P.E.**, will serve as senior engineer and oversee the development of design concepts. KC brings experience in preliminary design for urban and suburban roadways, bicycle and pedestrian accommodations, local roads, and context-sensitive design solutions. TDG Vice-President and Director of Engineering, **Eric Mongelli, P.E.**, will serve as the Principal-in-Charge and Quality Assurance/Quality Control (QA/QC) Manager for this project. Eric has 25 years of experience in transportation engineering analysis, design, and construction administration. Eric has designed numerous transportation projects in diverse contexts and combines his expertise in bicycle and pedestrian design with a strong attention to detail to deliver successful projects.

Hannah will be supported by a team of highly qualified engineers, landscape architects, and planners from TDG's Minneapolis office. Public engagement will be spearheaded by **Greta Alquist**, a transportation planner. Greta is known for her ability to develop and facilitate creative strategies for engaging stakeholders and her ability to foster and strengthen relationships in a range of project settings. **Connor Cox**, a planner with experience in multimodal projects, will provide support for public engagement efforts, and **Brian Tang, EIT**, an engineer deeply familiar with the nuances of good bicycle and pedestrian infrastructure design, will assist with concept and design development.

We are delighted to team with **Surveying Solutions, Inc. (SSI)** for this project. SSI has provided a wide range of surveying and engineering services across the State of Michigan for more than 15 years. Throughout their service, SSI has developed a strong understanding of local conditions and expectations. **Tony Thelen, PS** will serve as Survey Manager and provide oversight in the field. Tony's experience working on Michigan Department of Transportation (MDOT) projects has given him the ability to handle complex survey projects and effectively communicate with his project team.

Jesse Bruning, P.E., PS, a surveyor with more than 15 years of experience, will provide QA/QC for the survey team. Jesse possesses a considerable amount of experience working on MDOT and other projects in Michigan and knows what is required to effectively meet the demands for survey deliverables on any project.

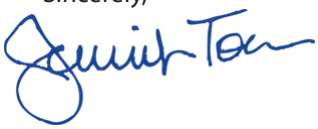
In order for a project of this importance to be successful, there must be strong support for the project from local stakeholders, including local business owners and the general public. Therefore, establishing a transparent design process that encourages collaboration between the design team and stakeholders is essential from the initiation of the project. The TDG Team has developed an exceptional practice for assisting municipalities in the execution of projects that seek to improve the livability, accessibility, and vitality of their communities. Effective stakeholder and public outreach is the cornerstone of TDG's design approach; we are confident that we will deliver design concepts which are aligned with the community's needs and that become an example of how a bicycle- and pedestrian-friendly corridor can spur economic and community development. Together, we are excited to improve accessibility with a planning and design process which addresses the needs of the stakeholders and community.

TDG has a long history of meeting project objectives on time and on budget. We are proud of our reputation for excellence in the field of multimodal transportation planning and design, and in public engagement and corridor design in particular. TDG is a Woman-Owned business and certified as a Disadvantaged Business Enterprise (DBE) in the State of Michigan, as is SSI. We are proud to be leading a 100% DBE team.

We acknowledge the receipt of Addenda #1 issued on 5/30/2017. TDG confirms that this proposal shall remain valid for a period of not less than 120 days from the proposal due date of 6/13/2017.

We encourage the selection committee to contact our current and former clients to inquire about the quality of our work. We are eager to begin work on this exciting and timely endeavor. If you have any questions or comments, please do not hesitate to contact me directly; my contact information is below. Thank you for your consideration of our team.

Sincerely,



Jennifer L. Toole, AICP, ASLA, President
8484 Georgia Avenue, Suite 800
Silver Spring, MD 20910
(p) 301.927.1900 x103, (f) 301.927.2800
jtoole@tooledesign.com
www.tooledesign.com

Hannah Pritchard, P.E., PTOE, Project Manager
212 Third Avenue North, Suite 476
Minneapolis, MN 55401
612.584.4094 x503
hpritchard@tooledesign.com

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1 Qualifications and References

Qualifications and References

Firm Information

Toole Design Group (TDG) is uniquely qualified to complete this project, as we have extensive experience addressing the needs of pedestrians, bicyclists, and transit users in the context of suburban arterial roadways. We are pleased to partner with **Surveying Solutions, Inc. (SSI)** for this project; information about each firm is provided below.

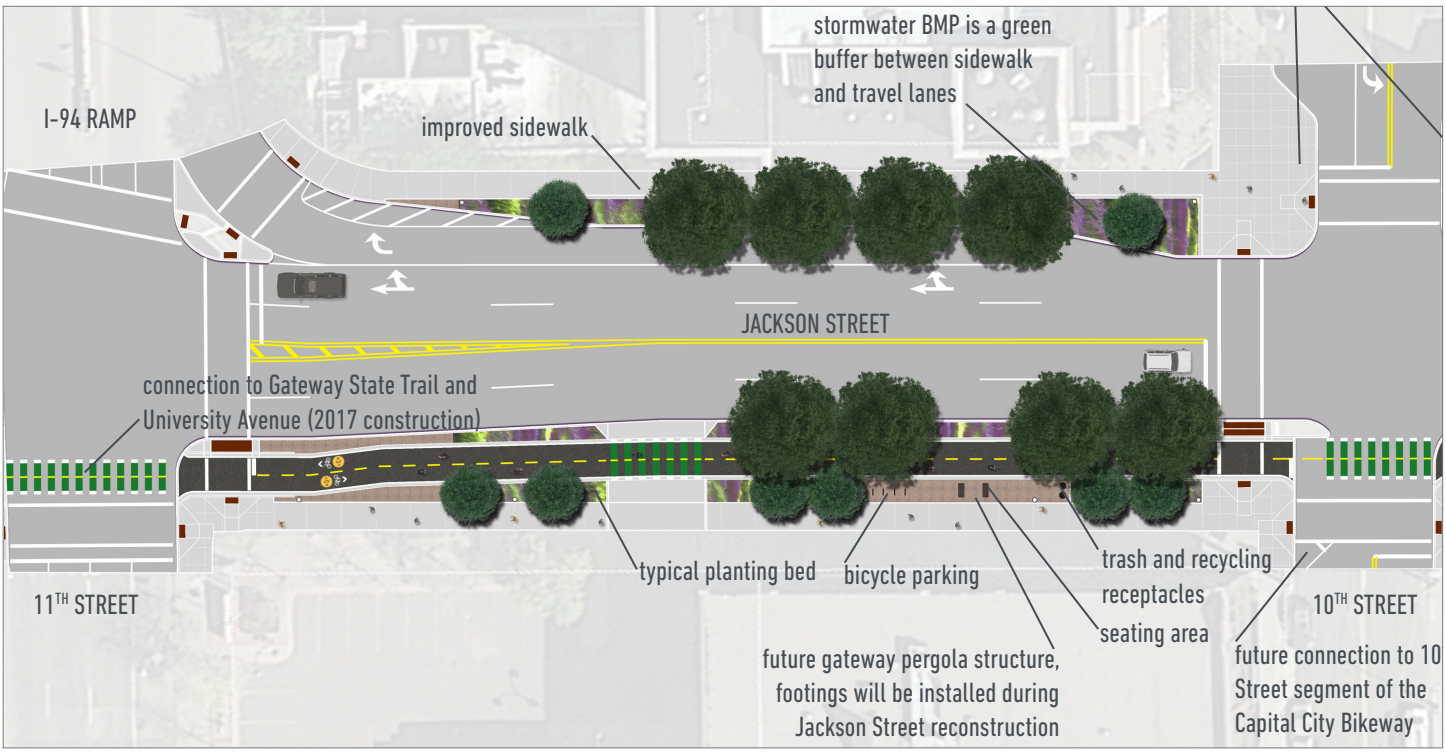
Toole Design Group, LLC

TDG began in 2003, and since then has grown to nearly 130 professional planners, engineers, and landscape architects in 11 offices across the country. Our office locations are:

- Baltimore, MD
- Berkeley, CA
- Boston, MA
- Denver, CO
- Madison, WI
- Minneapolis, MN
- Orlando, FL
- Portland, OR
- Seattle, WA
- Silver Spring, MD *(headquarters)*
- Spartanburg, SC

TDG is the nation's leading planning, engineering, and landscape architecture firm specializing in non-motorized transportation. We have a national reputation for our expertise in this area, and we offer a diverse, experienced team of professionals who are skilled at developing successful street networks that support active transportation and healthy communities. The team assigned to this corridor study project includes civil engineers, traffic engineers, and planners who will work closely together to provide a multidisciplinary approach.

At TDG, our goal is to provide the best multimodal solution based on the characteristics and needs of each project or locale. Our staff is composed of professionals with a solid foundation in contextual urban design and engineering, stakeholder engagement, traffic capacity analysis and simulation, safety analysis, and parking studies and



Conceptual design created by TDG for the Capital City Bikeway in Saint Paul, MN

management. As we know from the many communities in which we are working around the country, transportation patterns and habits are changing. Communities such as St. Joseph Charter Township and Benton Harbor Township are experiencing a shift away from a singular focus on motor vehicles to walking, biking, and transit.

In addition, people are interested in making their communities safer and more livable through more inclusive street and engineering design. Our staff has conducted bicycle- and pedestrian-focused corridor studies and conceptual design for communities across the country in both urban and suburban settings. We have been at the forefront of evaluating and testing new ways to measure and quantify the impacts of multimodal improvements, beyond the conventional vehicle level of service calculations, and taking a holistic approach to roadway design that meets the needs of the whole community.

Our project experience includes preliminary and final roadway design; multimodal analysis of intersection improvement options including low-cost improvements, such as curb extensions and median pedestrian refuge islands, traffic calming and road diet feasibility analysis; assessment of traffic impact study policies and practices; demand estimates for traffic volumes; heat map analysis of bicycle and pedestrian demand; parking studies and recommendations; pedestrian, bicycle, transit, and motor vehicle trip generation; motor vehicle demand sensitivity analysis; roundabout studies; and community and stakeholder engagement.

The following list demonstrates TDG's experience in the types of projects described above:

- Bike Walk Twin Cities: Improving Conditions for Walking and Biking Planning Study, Minneapolis and Saint Paul, MN
- Capital City Bikeway and Jackson Street Reconstruction, Saint Paul, MN
- Forest Drive Corridor Study, Columbia, SC
- Franklin Street Corridor Concept Design, Chapel Hill, MD
- Golden Mile Multimodal Access Enhancement Plan, Frederick, MD
- Guilford Avenue Bicycle Boulevard, Baltimore, MD
- Improving the Arborway, Boston, MA
- Longwood Crossing Study, Boston, MA
- Lowry Avenue Northeast Corridor Plan, Minneapolis, MN
- Maryland Avenue NE Pedestrian Safety Corridor Design, Washington, DC
- North Lynn Street Esplanade, Arlington, VA
- Saint Paul Street Design Manual, Saint Paul, MN
- Snelling Avenue Multimodal Design, Saint Paul, MN
- Union Street Corridor Study, Alexandria, VA
- University Avenue Traffic and Parking Study, Minneapolis and Saint Paul, MN
- West Lake Multimodal Transportation Study, Minneapolis, MN

TDG is a Woman-Owned Business and a certified Disadvantaged Business Enterprise (DBE) in more than 35 states across the U.S., including the State of Michigan.

Surveying Solutions, Inc.

SSI is a privately owned consulting firm, licensed in the State of Michigan, which specializes in a wide range of surveying and engineering services. Established in Standish, MI in 2001, SSI has seen tremendous growth and now spans 4 locations with more than 85 employees including 10 professional surveyors, 4 professional engineers, more than 14 field crews, and a team of more than 15 CAD technicians.

Over the past 15 years SSI has provided exceptional service throughout the State of Michigan. As a full-service surveying and engineering company, SSI works with governmental, residential, municipal, and private development clients as well as other design professionals.

SSI's staff is equipped with the latest software and hardware from fully robotic total stations to the premiere Riegl Mobile Light Detection and Ranging (LiDAR) system. SSI is proficient in several different types of CADD software including both AutoCAD and MicroStation. SSI has one of the largest, most experienced surveying staffs in the State of Michigan, combined with the very latest in surveying technology, which gives SSI the opportunity to work on large, complex projects. SSI's accurate and timely delivery of results has made the firm a premiere surveying service provider. SSI is a Michigan-certified DBE.

References

We invite you to contact any of our clients profiled in this proposal regarding the quality of **Toole Design Group's (TDG)** and **Surveying Solutions, Inc. (SSI)** work and our staff's experience and performance.

Toole Design Group, LLC

MDOT Sidepath Safety Research

Michigan Department of Transportation
Josh DeBruyn, Bicycle and Pedestrian Coordinator
425 West Ottawa Street, PO Box 30050, Lansing, MI 48909
517.335.2918
debruynj@michigan.gov

Snelling Avenue Multimodal Design, Saint Paul, MN

Minnesota Department of Transportation
Mark Lindeberg, Project Manager
1500 West CO RD B-2, Roseville, MN 55113
651.234.7722
mark.lindeberg@state.mn.us

Lowry Avenue Northeast Corridor Plan, Minneapolis, MN

Hennepin County Department of Housing, Community Works, and Transit
Carol Anderson, AICP, MLA Principal Planning Analyst
701 4th Avenue S, Suite 400, Minneapolis, MN 55415
612.348.2997
carol.anderson@hennepin.us

Surveying Solutions, Inc.

Various Projects

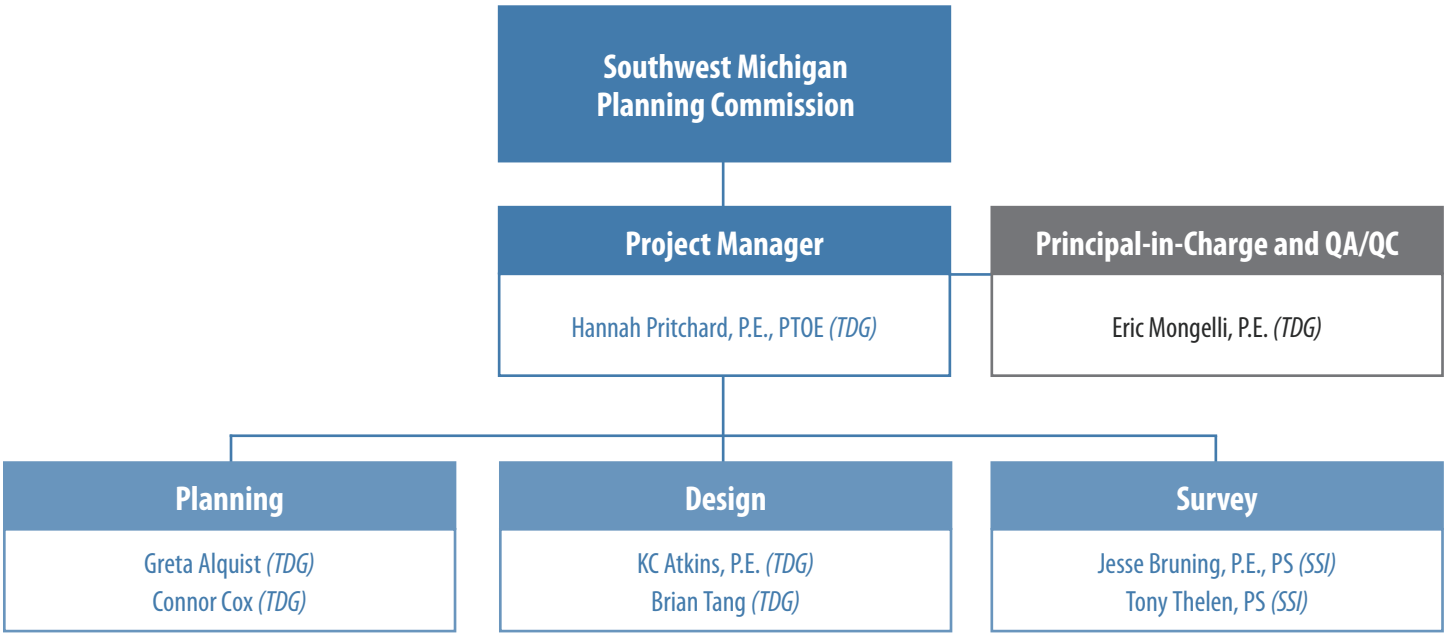
Michigan Department of Transportation
Kelvin Wixtrom, PS
425 West Ottawa Street, PO Box 30050, Lansing, MI 48909
517.241.4527
wixtromk@michigan.gov

Michigan Department of Transportation
Erik Schnepp, PS
1501 E Kilgore Road, Kalamazoo, MI 49001
269.337.3922
scheppe@michigan.gov

Michigan Department of Transportation
Brian Fish, PS
4701 W. Michigan Avenue, Jackson, MI 49201
517.335.1916
fishb@michigan.gov

Project Team

Toole Design Group (TDG) has selected a team of highly experienced engineering and planning experts for the Napier Corridor Pedestrian and Bicycle Feasibility and Conceptual Engineering Plan project. The chart below outlines the organization of our project team and key project staff. TDG's professional staff of more than 130 will help support this core team. Resumes of key project staff who will be involved with this project on a daily basis are included on the following pages.



TDG | Toole Design Group, LLC
SSI | Surveying Solutions, Inc.

Eric Mongelli, P.E.

Principal-in-Charge

Toole Design Group, LLC

Eric Mongelli has a broad transportation engineering background and has managed a number of major planning and design projects. Eric's experience has involved taking projects through their full evolution, from initial planning stages to environmental analysis, design, right-of-way acquisition, and construction. In addition to working on numerous transportation design projects, including roadways, interstate highways, trails, and parking garages, he has managed several large projects with multidisciplinary teams. Eric is particularly adept at geometric design, bicycle and pedestrian facility design, developing maintenance of traffic plans, erosion, and sediment control plans, right-of-way plans, traffic analysis, and plans and specification coordination. As Principal-in-Charge, Eric will provide oversight for the project and advise on key design decisions.

Selected Project Experience

- **North Lynn Street and Lee Highway Improvements,** Arlington, VA
  Eric's responsibilities as Project Manager included overseeing design development for improvements to North Lynn Street, Lee Highway, and the Custis Trail. Improvements included intersection redesign, upgrading sidewalks, bridge modifications, retaining walls, trail improvements, crosswalks, signals, utility upgrades, and lighting, as well as adding bicycle lanes, landscaping, and aesthetic elements. Eric coordinated with several agencies including the Virginia Department of Transportation (VDOT) and the National Park Service, and managed the work of subconsultants.
- **Central Avenue Phase 2 Neighborhood and Metro Station Area Access and Streetscape Improvement Plan,** Prince George's County, MD
  As senior engineer, Eric provided assistance in developing bicycling and pedestrian improvement recommendations along the Central Avenue corridor. Eric oversaw the development construction cost estimates for the improvements.
- **DC On-Call Bicycle Lane Design,** Washington, DC
  As design engineer, Eric's responsibilities included development and review of feasibility analyses. In addition, he produced final construction documents for on-street bicycle facilities throughout the City. Designs included bicycle lanes, cycle tracks, shared lanes, and wayfinding signage.
- **Snelling Avenue Multimodal Design,** Saint Paul, MN
  As senior engineer, Eric assisted with conceptual geometric design and providing QA/QC for this project that involved developing a separated bike lane and other multimodal improvements along the Snelling Avenue corridor.
- **AASHTO *Guide for the Development of Bicycle Facilities***
  Eric served as lead engineer for the 2012 update to the American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*. He was the primary author for the Shared Use Path Design chapter of the AASHTO Bike Guide as part of the update. Eric was involved with reviewing other portions of the Guide, including on-street bicycle facilities and maintenance of traffic. Eric is currently working on the new version of the Guide. He is responsible for developing detailed design criteria for a brand new Elements of Design chapter. Eric is also writing the new Shared Use Path chapter and Structures chapter.

Professional Highlights

- Years of Experience: 25
- Toole Design Group: 2005-Present
- T.Y. Lin International: 1992-2005

Education/Certification

- Bachelor of Science, Urban Planning and Cartography, Frostburg State University: 1992
- Professional Engineer: MD
- Virginia Department of Conservation and Recreation Erosion & Sediment Control Plan Review Certification, #219: 1999

Specialized Training

- VDOT Interactive Graphic Roadway Design System
- VRTBA Maintenance of Traffic
- Geopak, Road Design Software
- VADCR Erosion & Sediment Control
- WVDOT Maintenance of Traffic, Signing and Pavement Marking
- FHWA Roadside Design Guide
- ASCE Planning & Design of Urban Interchanges

Appointments/Affiliations

- Association of Pedestrian and Bicycle Professionals
- American Society of Civil Engineers
- American Society of Highway Engineers

Hannah Pritchard, P.E., PTOE

Project Manager

Toole Design Group, LLC

Hannah Pritchard is an experienced project manager who focuses on bicycle and pedestrian planning and design. She has a strong background in traffic engineering and an understanding of the complexity of balancing the roadway for all modes. She is highly capable of communicating with engineers, planners, and the public. Hannah works closely with project stakeholders to develop feasible designs that fulfill a community's vision. Hannah is a highly responsive and hands-on project manager who has overseen everything from small traffic studies to large master plans involving multiple subconsultants. As Project Manager for the project, Hannah will manage the day-to-day activities on the project and guide each task. She will be the primary point-of-contact for the Southwest Michigan Planning Commission (SWMPC) and will travel for all in-person meetings listed in the scope.

Hannah has deep ties to Michigan, having attended Michigan State University and worked in the Detroit area for nearly a decade after graduation. While with her previous employer, Hannah performed many corridor studies and signal timing projects on Michigan Department of Transportation (MDOT) roadways around the State. Hannah understands the loyalty that many Michigan communities feel towards the automobile industry and how that has shaped transportation decisions in the last 50 years. At the same time, she is a firm believer that people deserve to have choices in their mode of travel. Since joining TDG, she has maintained her Michigan connections through several planning an engineering projects with MDOT, the City of Detroit, and other local clients. Hannah is known for her attention to detail, focus on client satisfaction, and efficient project delivery. Based on her experience with her previous employer's ISO 9001 certification program, Hannah has been working to enhance TDG's QA/QC program and formalize the company's adherence to strict project management and documentation standards.

Selected Project Experience

Corridor Studies

- **Snelling Avenue Multimodal Design,** Saint Paul, MN
  Hannah serves as Project Manager for the development of conceptual designs for Snelling Avenue between Hewitt Avenue and Midway Parkway. TDG is evaluating conceptual designs for bicycle and pedestrian facilities over a series of bridges currently designed to maximize vehicle throughput and speed. TDG's role includes developing innovative concepts for bicycle and pedestrian facilities along the corridor, including recommendations for changes to the freeway style ramps.
- **Forest Drive Corridor Study,** Columbia, SC
  Hannah was the lead traffic engineer for the development of Synchro 8.0 models of AM and PM peak period traffic conditions on Forest Drive. She performed an analysis of vehicular flow along the corridor and signal optimization in an effort to improve mobility and access to the corridor for all users. Recommendations included reduced cycle lengths and simplification of some signal phasing. Synchro 8.0 modeling was used to test proposed Complete Streets designs for the corridors. She also performed a three-year crash analysis to identify hot spots along the corridor to address in the proposed designs.
- **Lowry Avenue Northeast Corridor Study,** Minneapolis, MN
  Hannah served as a traffic engineer for this study, which evaluated existing transportation and land use conditions along the corridor and provided recommendations for improvements. Hannah's role included inventory and analysis of city, county, and neighborhood plans and facilities in the study area. She was also responsible for design evaluation to improve the corridor for pedestrian and bicycle traffic.
- **University Avenue Traffic and Parking Study,** Minneapolis and Saint Paul, MN
  Hannah served as the Project Manager for the University Avenue Traffic and Parking

Professional Highlights

- Years of Experience: 11
- Toole Design Group: 2013-Present
- Parsons Brinkerhoff: 2006-2013

Education/Certification

- Master of Science, Civil Engineering, Michigan State University: 2009
- Bachelor of Science, Civil Engineering, Michigan State University: 2004
- Professional Engineer: MI, MN
- Professional Traffic Operations Engineer: 2015

Appointments/Affiliations

- WTS Michigan, Board Member: 2011-2014
- WTS Minnesota, Board Member: 2014-Present
- Streets.MN Board, Treasurer: 2016-Present

Technical Proficiencies

- Synchro 5.0 – Synchro 9.0
- SimTraffic
- HCS
- SPSS

Study. In 2014, the addition of the Green Line LRT to University Avenue resulted in the removal of 80% of the on-street parking along the corridor. TDG worked with local business owners to assess the traffic impacts of converting one of the two vehicle travel lanes to an on-street parking lane to reinstate parking. Hannah's role included project management, leading stakeholder meetings, and Synchro modeling of post-LRT traffic conditions on six miles of the corridor with and without parking.

- **Rochester 2nd Street SW Reconstruction,** Rochester, MN
  Hannah provided a classroom training and walking audit that offered project staff, city staff, and local stakeholders an understanding of walkability concepts, common challenges, and a toolbox to develop a more walkable design for this reconstruction project. Participants were led through a prioritization exercise to help define critical elements for the corridor. Hannah's role included development of training materials and leading the training and walking tour.

Transit Studies

- **Woodward Avenue Transit Alternatives Avenue,** Detroit and Pontiac, MI
  Hannah served as transportation engineer tasked with evaluating transit alternatives along Woodward Avenue between downtown Detroit and Pontiac. The 27-mile corridor is served by 2 transit systems providing local and express bus routes. The study examined various other modes such as Light Rail Transit (LRT) and Bus Rapid Transit (BRT), potential transit ridership, and transportation system impacts. Hannah was responsible for development of Synchro models used to evaluate of traffic impacts of proposed alternatives.
- **Riverview Pre-Project Development (PPD) Study,** Saint Paul, MN
  Hannah is the TDG Project Manager assisting the Ramsey County Regional Rail Authority in evaluation and defining a locally preferred alternative for the Riverview Corridor that will connect Downtown Saint Paul to MSP International Airport. The evaluation includes implementing a unique methodology to assess pedestrian and bicycle mobility and station accessibility two primary corridors: the Canadian Pacific Ford Spur and West Seventh Street, as well as numerous options for connecting the corridor to Union Depot and MSP. There is a clear synergy between transit and non-motorized modes, and this evaluation will provide valuable input into the selection of a preferred alternative.

Michigan Projects

- **MDOT Sidepath Research**
  Hannah is the Deputy Project Manager and QA/QC lead for this investigation into bicyclist safety along sidepaths. The project includes a broad crash analysis of sidepath bicycle crashes, as well as a resident survey to understand perceptions of safety, attitudes toward bicycling, and roadway design preferences among both drivers and bicyclists of bicycling. Hannah has coordinated the survey outreach effort, including work with subconsultants and multiple vendors. She has brought a local understanding of bicycling in Michigan.
- **MDOT Walkability Reviews**
  Hannah served as the Project Manager for the 2014 MDOT Walkability Reviews. Classroom trainings and walking audits were performed in seven Michigan communities to provide local stakeholders with an understanding of walkability concepts, common challenges, and a toolbox of possible solutions to develop more walkable communities. Community partners were brought together at the training and encouraged to work to address issues in real time. Hannah's role included project management, development of training materials, and leading trainings and walking tours.
- **MDOT Metro Region Traffic Signal Optimization Program**
  While working at a previous firm, Hannah served as a traffic engineer responsible performing traffic signal optimization as well as reviewing consultant submittals of existing and optimized Synchro models and timing permits for retiming projects on MDOT trunklines in Macomb, Oakland, St. Clair, and Wayne counties. Over the seven years she was involved in this project, Hannah optimized or provided QA/QC for more than 200 traffic signals. Hannah was involved in the development and periodic update of a signal optimization manual provided to consulting firms by MDOT for use in the development of Synchro models and signal optimization projects. As part of this project, Hannah was responsible for a large scale summary and review of benefit/cost ratio and crash analysis for all MDOT signal optimization jobs performed between 2003-2007. This analysis summarized 7 corridors and more than 300 signals worth of data. Crashes that occurred before and after the signal optimization was implemented were reviewed. Statistical analysis was performed to evaluate the impact of signal optimization on the crash experience on the study corridors.

KC Atkins, P.E.

Design Lead

Toole Design Group, LLC

KC Atkins is a professional engineer with experience in transportation engineering and project management. Her experience in preliminary and final design includes bicycle/pedestrian accommodations, urban/rural roadways, interchanges, local roads, and context-sensitive design solutions. She works to stay on top of industry best practices for non-motorized design, including ADA standards. KC also has experience in traffic engineering, performing traffic analysis, and delay calculations, as well as traffic safety, performing crash analysis, safety plans, and road safety audits. Her wide range of knowledge allows her to incorporate multiple elements of engineering into her work to provide safe multimodal infrastructure. As the design lead on this project, KC will work closely with Hannah and SWMPC to develop multiple concept alternatives for the corridor.

Selected Project Experience

- **Snelling Avenue Multimodal Design,** Saint Paul, MN
  As a project engineer, KC guided the conceptual design of bicycle and pedestrian facilities along Snelling Avenue. The project included bicycle and pedestrian facility crossings of eight structures. The project priorities were to provide safe and comfortable pedestrian and bicycle facilities while also accommodating motor vehicle, transit vehicles, and freight vehicles along and accessing the roadway.
- **Capital City Bikeway and Jackson Street Reconstruction,** Saint Paul, MN
  As Deputy Project Manager, KC is assisting with day-to-day project administration and coordination. KC has helped guide planning of a bicycle network that will connect to regional and state trail systems. KC's work includes extensive public and stakeholder engagement, recommending protected bikeway route alignments, and developing design alternatives. KC assisted in the concept design of six different recommended bicycle routes within the downtown, including a bridge and underpasses. Her work involved preliminary through final design and construction documents for the full reconstruction of Jackson Street, which included successfully obtaining a MSA variance and MnDOT Level 2 Geometric Layout.
- **U.S. 41,** Oshkosh/Neenah, WI
  As lead design engineer at a former firm, KC designed preliminary and final plans for 12.5 miles of U.S. 41. The design included 10 multi-lane, spiral roundabouts and bicycle/pedestrian facilities under multiple construction contracts. KC developed shared use paths adjacent to roundabouts and adjacent to the freeway across Lake Butte des Morts providing connections to existing trails across the lake. She coordinated with landscape architects and Native American designers to incorporate historic images and lessons to provide informative kiosks for trail users. KC led tasks including the geometric layout, intersection details, construction staging, roadway modeling, cost estimates, permit applications, utility relocation review, structure survey reports, design exceptions, and special provisions.
- **IH-94,** Eau Claire, WI
  While at her previous firm, KC served as Deputy Project Manager for the pavement replacement project on a five-mile segment of IH 94 in Eau Claire County. KC developed preliminary and final plans, special provisions, construction estimates, Environmental Report, and the Traffic Management Plan. Design included intersection redesign along WIS 37 underneath the interstate and preliminary bicycle provisions that could be replicated throughout the corridor as regional demand increases.

Professional Highlights

- Years of Experience: 10
- Toole Design Group: 2014-Present
- CH2M HILL: 2007-2014

Education/Certification

- Bachelor of Science, Civil Engineering, Institute of Technology, University of Minnesota: 2007
- Professional Engineer: MN, WI

Affiliations

- Women's Transportation Seminar
- North-Central Institute of Transportation Engineers
- American Society of Civil Engineers: Committee on Younger Members, Publications Member: 2012-2015

Greta Alquist

Transportation Planning Lead

Toole Design Group, LLC

Greta Alquist is a planner with experience managing pedestrian and bicycle projects and initiatives. Greta has experience with funding prioritization through her work on the Minnesota State Highway Investment Plan and the Metropolitan Council's Funding and Programming Technical Advisory Committee when she was at the Minnesota Department of Transportation (MnDOT). She has experience facilitating listening sessions for disadvantaged groups such as women, teens, and people with higher dependence on transit. Greta puts design development into the hands of stakeholders through tactile, visual, and interactive activities such as cross section puzzles, smartphone games, and art. Greta brings an environmental and social justice lens to her work whether it is a policy-focused planning effort or a detailed corridor design. She is especially focused on prioritizing the safety and comfort of the most vulnerable users in our transportation system and amplifying their voices. Greta is known for her grounded view of project goals, balancing her attention to detail and focus on client and stakeholder satisfaction. As the transportation planning lead, Greta will work with SWMPC to develop and implement a high-quality planning process that engages the community and identifies priorities for the corridor.

Selected Project Experience

- **Snelling Avenue Multimodal Design,** Saint Paul, MN
  Greta is the planning and public involvement lead for TDG's efforts to develop conceptual designs for Snelling Avenue between Hewitt Avenue and Midway Parkway. Greta developed strategies for involving stakeholders and community members in evaluating conceptual designs for bicycle facilities over a series of bridges currently designed to maximize vehicle throughput and speed.
- **Capital City Bikeway and Jackson Street Reconstruction,** Saint Paul, MN
  The City is implementing the Capital City Bikeway (CCB), a downtown bicycle network that will increase the level of comfort for bicyclists in downtown Saint Paul. TDG led the project's planning, engineering, and design work and was responsible for identifying the CCB's alignment and developing design concepts for separated bike facilities. Jackson Street is the first segment of the downtown bike system, constructed in 2016. Greta served as a planner, assisting with public outreach and engagement and facilitating Community Advisory Committee meetings.
- **Saint Croix County Comprehensive Bicycle and Pedestrian Facilities Plan,** Saint Croix County, WI
  Greta brought planning and community engagement expertise to this countywide plan, which built upon opportunities and excitement generated by two new paths over the Saint Croix River connecting the County to the Twin Cities. Greta developed a robust community engagement and communications plan and developed/deployed a range of engagement strategies, from facilitating workshops to conducting community event activities and training project partners on how to use a meeting-in-a-box. Greta drew on her experience managing statewide plans and successful engagement across broad geographic regions to bring creative and effective strategies to the project.
- **Brookings Bicycle Mater Plan,** Brookings, SD
  As lead planner, Greta worked closely with the project team on all aspects of the plan. She brought expertise in creative and meaningful engagement strategies that reached a diverse cross section of community members. Greta coordinated a robust community engagement process that resulted in more than 1,100 participant interactions, including a series of listening sessions targeted at small groups. The process resulted in a solid community engagement report which serves as the plan's foundation. The plan was adopted unanimously by City Council in February 2017.

Professional Highlights

- Years of Experience: 8
- Toole Design Group: 2015-Present
- Minnesota Department of Health: 2015
- Minnesota Department of Transportation: 2009-2015

Education/Certification

- Master of Urban and Regional Planning, University of Minnesota: 2009
- Bachelor of Arts, Geography, Macalester College: 2007

Appointments/Affiliations

- Association of Pedestrian and Bicycle Professionals
- APBP Mentor Program, Minnesota Chapter Leadership Team
- Women's Transportation Seminar
- League of American Bicyclists
- American Planning Association

Connor Cox

Project Planner

Toole Design Group, LLC

Connor Cox is a planner with experience in bicycle, pedestrian, and transit planning projects, both in the U.S. and internationally. He works on projects ranging from local planning and design projects to large statewide and national research initiatives focused on multimodal transportation planning. Prior to joining TDG, he worked for an international non-profit organization in Rio de Janeiro, Brazil, where he worked on sustainable transportation and urban development projects, including bicycle and pedestrian planning and bus-rapid transit (BRT) station area planning. Connor will support Greta and Hannah on planning aspects of the project.

Selected Project Experience

- **Lowry Avenue Northeast Corridor Plan,** Hennepin County, MN
  Connor served as a planner to update Hennepin County's plan for the Lowry Avenue Northeast Corridor. The TDG Team explored opportunities to improve walking and bicycling conditions along the corridor, and Connor was actively involved in the public engagement process. He helped develop engagement activities and presentation materials and document public participation and feedback. He developed an online survey that was used to gather public comments.
- **MDOT Sidepath Research**
  Connor served as a planner on the project, which aimed to produce defensible guidance related to side paths in suburban and urban environments in the State. The primary product from the project research was a user-friendly tool to assist engineers and planners in assessing the crash risk and potential user benefits of various bicycle facilities in multiple contexts. Connor was involved in developing a survey that was distributed to residents, particularly focusing on bicycling experiences and facility preferences. He also assisted with administering the survey and analyzing results.
- **Capital City Bikeway and Jackson Street Reconstruction,** Saint Paul, MN
  Connor served as a planner and conducted research of best practice urban bikeways from around the country, assisted with public outreach and engagement, developed an online survey, produced maps, graphics, and illustrations, analyzed street-level land uses adjacent to streets under study for the CCB, produced maps to assist in the analysis, and developed the CCB Plan. TDG led the planning, engineering, and design work for the project, identifying the alignment of the CCB and developing design concepts for separated bike facilities on those streets.
- **Brookings Bicycle Master Plan,** Brookings, SD
  Connor served as a transportation planner and assisted with public engagement efforts and plan development, including developing online interactive maps that allowed the public to weigh in on bicycling issues and recommendations. He was involved in developing and writing the Bicycle Master Plan's recommendations. The plan was adopted unanimously by City Council in February 2017.
- **Saint Croix County Comprehensive Bicycle and Pedestrian Facilities Plan,** Saint Croix County, WI
  Connor served as a transportation planner and assisted with the development of engagement boards and activities for public and stakeholder meetings and a memorandum on community engagement listening sessions. He created an online WikiMap that gathered public feedback on existing conditions throughout the County, including existing routes, barriers, and desired routes for walking and biking.

Professional Highlights

- Years of Experience: 4
- Toole Design Group: 2014-Present
- Institute for Transportation & Development Policy (ITDP): 2012-2013

Education/Certification

- Master of Science, International Cooperation and Urban Development, Technical University of Darmstadt (Germany): 2013
- Bachelor of Art , Sustainability (Sustainable Urban Development), Arizona State University: 2010

Brian Tang, EIT

Engineer

Toole Design Group, LLC

Brian Tang is an engineer in TDG's Minneapolis office. He has two years of experience in the transportation field focusing on Complete Streets design and transit planning. Brian holds undergraduate degrees in both Environmental Studies and Environmental Engineering. He is skilled in using graphic production, 3D rendering, and mapping software to quickly visualize project concepts. His experience includes implementing a statewide transit ridership forecasting model, preparing preliminary concepts for roundabouts and other traffic calming projects, assisting with public involvement, and helping collect, process, and display data for parking and traffic studies. He has extensive experience with GIS-based mapping and analysis and designed the last three editions of the New Haven, CT, regional bike map.

Selected Project Experience

- **Snelling Avenue Multimodal Design,** Saint Paul, MN
  Brian is serving as an engineer and assisting with design work, concept evaluation, and public outreach. He is helping to develop and evaluate designs for separated bicycle facilities and improved sidewalks and crosswalks between Hewitt Avenue and Midway Parkway in Saint Paul. Brian helped develop innovative concepts for bicycle and pedestrian facilities along the corridor, including recommendations for changes to the freeway-style ramps. He assisted with geometric layout for the concept plan development. Brian prepared photosimulations to compare different median and barrier separation options between the bikeway and roadway on the corridor.
- **Dallas On-Street Bicycle Lane Design,** Dallas, TX
  Brian is serving as an engineer helping to develop and draft buffered bike lane designs on thee urban corridors in Dallas. His duties include the preparation of AutoCAD sheet sets consisting of sign and pavement marking plans, sections, sign and pavement marking details, and quantity tabulations. One corridor includes improvements to a bikway crossing over streetcar tracks at a five-way signalized intersection. Another includes transitions between several cross sections to balance parking needs and bikeway buffer space. The third corridor includes a pair of contra-flow buffered bike lanes in a downtown business district.
- **Edgewood Cycle Track Technical Assistance,** New Haven, CT
  Brian is playing a central role in providing technical assistance to the City of New Haven, helping to refine and document key details of a separated bike lane along a two-mile corridor through residential neighborhoods west of downtown New Haven. The corridor transitions between one-way and two-way separated bike lanes along one-way and two-way streets both with and without parking. The Edgewood Cycle Track is the first separated bike lane to undergo the Connecticut Department of Transportation (CTDOT) traffic administration review process. The City hired TDG to help guide their response to feedback from CTDOT. Brian's duties include the preparation of pavement marking and striping details to document the numerous configurations along the corridor. He is assisting with guiding responses to CTDOT feedback and has prepared draft correspondance for the City to use to request jurisdiction-wide Interim Approval for use of green pavement in bike lanes, bicycle signal faces, and intersection bicycle boxes.

Professional Highlights

- Years of Experience: 4
- Toole Design Group: 2016-Present
- CDM Smith: 2014-2016
- Elm City Cycling: 2009-2015

Education/Certification

- Bachelor of Science, Environmental Engineering, University of Connecticut: 2016
- Bachelor of Arts, Environmental Studies, Yale University: 2012
- Engineer in Training: CT

Jesse Bruning, P.E., PS

QA/QC Surveyor

Surveying Solutions, Inc.

Jesse Bruning is a professional surveyor and will be the lead QA/QC surveyor for this project. Jesse possesses a considerable amount of DOT experience in the surveying discipline and knows what is required to meet the demands for the survey deliverables on any project. Jesse's wealth of experience allows him to locate potential errors and resolve them before providing information to the design team. Jesse is constantly striving to improve methods employed by SSI and will make sure that all field personnel are adhering to project specifications. He will familiarize himself with the requirements the project and ensure the deliverables meet those requirements.

Selected Project Experience

- **M-43 Resurfacing,** Kalamazoo, MI
  Jesse served as the QA/QC surveyor. The project involved HMA resurfacing and ADA ramp upgrades along M-43 in the City of Kalamazoo. In order to capture specific topographic features, SSI utilized a combination of conventional survey methods and Mobile Light Detection and Ranging (LiDAR) technology as a safe and accurate solution. The data collected was seamlessly merged together to provide a complete planimetric map and terrain surface.
- **I-496/US-127,** Ingham County, MI
  Jesse served as the QA/QC surveyor. This project was intended to address median side shoulder stabilization and widening to provide added capacity during peak traffic times including associated structure improvements and ITS infrastructure to accommodate these design goals. The project included noise mitigation and median barrier design considerations. To meet these needs, SSI provided mapping deliverables for full road design survey including limited structure surveys for 14 structures along I-496/US-127. Topographic information was collected utilizing Mobile LiDAR for visible areas along corridor.
- **I-196,** Grand Rapids, MI
  Jesse served as the QA/QC surveyor. SSI provided road design, right-of-way, hydraulic and partial structure surveys along I-196 from the Fuller Road interchange east to I-96. For this project, SSI utilized Mobile LiDAR in order to capture topographic features along I-196 from the Fuller Road interchange east to I-96.
- **M-60,** Branch and Calhoun County, MI
  Jesse served as the QA/QC surveyor. SSI was responsible for providing road design survey services. The project involved a multi-course Hot Mix Asphalt (HMA) overlay with full width shoulders along with associated guardrail and permanent pavement marking along this 8.5-mile stretch of M-60. Mapping for this project is being completed using a combination of Mobile LiDAR technology and traditional survey methods. The data will be merged together to create the final deliverables.
- **US-131,** Kalamazoo County, MI
  Jesse served as the QA/QC surveyor. SSI was responsible for providing a road design survey utilizing Mobile LiDAR technology to capture topographic information for all hard surfaces and structure underclearances along US-131 from U Avenue to 1,000 feet north of Milham Avenue in the City of Portage.

Professional Highlights

- Years of Experience: 16
- Surveying Solutions, Inc.: 2015-Present
- Dynasty Group: 2009-2015
- Nowak & Fraus Engineers: 2007-2008
- Merrick & Company: 2007
- Professional Engineering Associates: 2000-2007

Education/Certification

- Bachelor of Science, Land Surveying, Civil Engineering, Michigan Technological University: 2001
- Professional Engineer: MI
- Professional Surveyor: MI

Tony Thelen, PS

Project Surveyor

Surveying Solutions, Inc.

Tony Thelen has a Master's in Surveying Engineering and has more than 18 years of experience in the surveying field. Tony is responsible for assisting crew chiefs on any questions that arise and help them through difficult surveying tasks. He specializes in MDOT Design Surveys, survey setup, setting horizontal and vertical control, calculating right-of-way, and determining alignment for bridge and road projects. Throughout his career he has gained invaluable experience on MDOT projects and has performed numerous design surveys throughout the State of Michigan. This experience provides him the ability to handle very complex and simple survey procedures, while being able to translate survey and design issues to the project team. Tony is constantly striving to make sure that projects are performed efficiently and with the most common sense approach. That philosophy results in new and innovative technology which is now changing the way survey data and collected, delivered, and utilized.

Selected Project Experience

- **I-275 Bike Path Reconstruction,** Romulus, MI
  As the project surveyor, Tony provided road design, structure, hydraulic, and right-of-way survey for reconstructing an existing nonmotorized facility, including signs, pedestrian signals, and ADA ramp improvements, and pedestrian structure replacement or rehabilitation.
- **Non-motorized Crossing,** Washtenaw County, MI
  Tony served as a project surveyor overseeing this road design survey performed by SSI. Mapping for this project was done primarily with Mobile LiDAR. Along the corridor, information was extracted on the hard surface and to approximately 20 feet beyond the hard surface for greenbelt areas. SSI completed all topographic mapping, Digital Terrain Modeling, processing, editing and clean-up for the project area, and delivered a project portfolio.
- **M-1 Sidewalk Ramps,** Detroit, MI
  Tony was project surveyor and provided design and right-of-way services to provide planimetric mapping of up to 273 pedestrian sidewalk ramps along the project limits. He utilized Mobile LiDAR to provide an initial baseline scan of structures to monitor any movements or changes throughout project.
- **M-60,** Branch and Calhoun County, MI
  Tony served as project surveyor. SSI was responsible for providing road design survey services. The project involved a multi-course HMA overlay with full width shoulders along with associated guardrail and permanent pavement marking along this 8.5-mile stretch of M-60. Mapping for this project is being completed using a combination of Mobile LiDAR technology and traditional survey methods. The data will be merged together to create the final deliverables.
- **US-131,** Kalamazoo County, MI
  Tony was project surveyor. SSI was responsible for providing a road design survey utilizing Mobile LiDAR technology to capture topographic information for all hard surfaces and structure underclearances along US-131 from U Avenue to 1,000 feet north of Milham Avenue in the City of Portage.

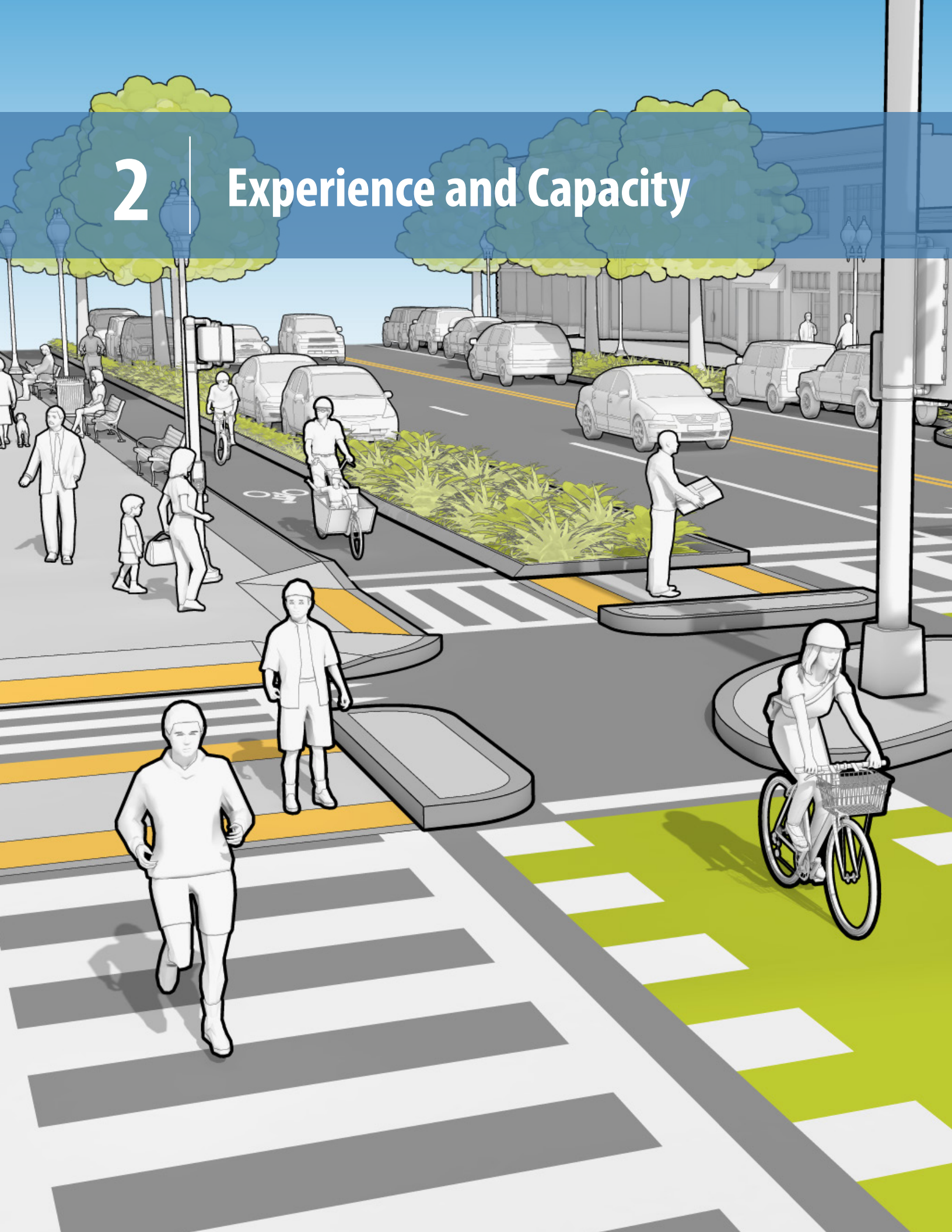
Professional Highlights

- Years of Experience: 18
- Surveying Solutions, Inc.: 2003-Present

Education/Certification

- Master of Science, Survey Engineering, Purdue University: 2001
- Bachelor of Science, Surveying Engineering, Ferris State University: 2000
- Professional Surveyor: MI

2 Experience and Capacity

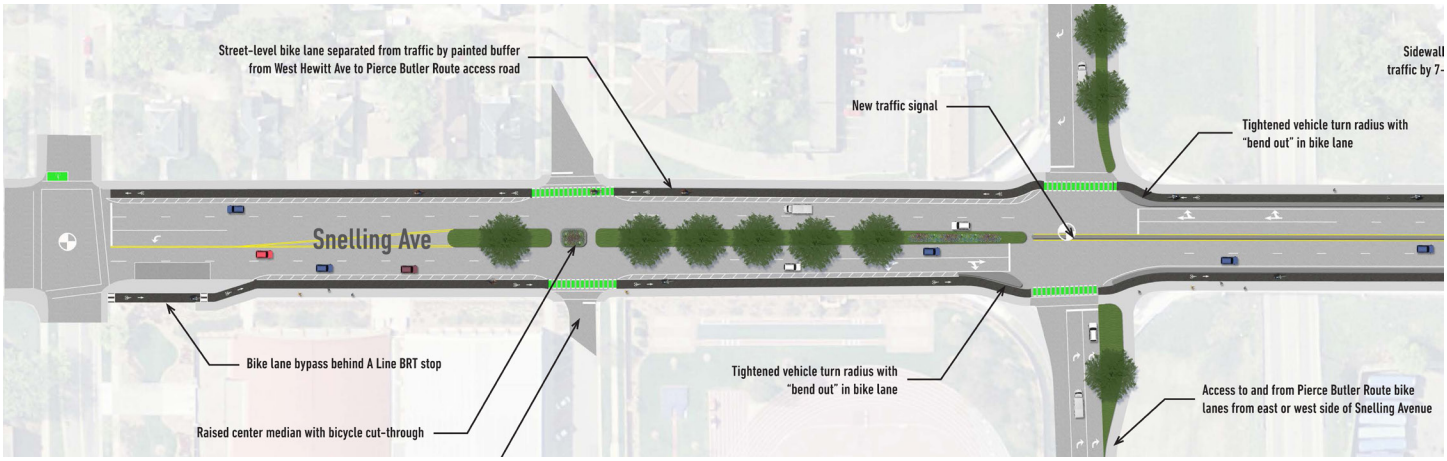


Experience and Capacity

Toole Design Group (TDG) has had the privilege to be part of many projects that have direct, relevant application to the Napier Corridor Pedestrian and Bicycle Feasibility and Conceptual Engineering Plan project. The following pages include an overview of some of our most relevant projects.

Saint Paul, MN

Snelling Avenue Multimodal Design



Snelling Avenue, a state trunk highway, is the only available north-south crossing of a series of railroad tracks within a mile in either direction. Currently, the roadway has five-foot sidewalks, no dedicated bikeway, and a freeway-like design. The A Line, the region's first arterial Bus Rapid Transit (BRT), was recently implemented on the corridor. **Toole Design Group (TDG)** worked with the Minnesota Department of Transportation (MnDOT) to develop a preliminary design for improving safety, comfort, and mobility for walking and biking on Snelling Avenue in this area.

TDG's role on the project included developing multiple options for roadway concepts that incorporate safe and comfortable sidewalks and bikeways into the corridor while balancing the needs of drivers, freight, and transit. The initial concepts included options for both protected bikeways and shared use paths.

TDG worked with the project core team to develop an evaluation matrix to prioritize modes along the corridor and characteristics of the preferred design. The preferred design included separate spaces for pedestrians and bicyclists with one-way bikeways on either side of the roadway.

TDG developed a conceptual design for the corridor and provided input to the prime consultant during the development of the preliminary plan set and cost estimate. The project core team acknowledged that separated facilities would be the most comfortable for both types of users. The design includes enhanced sidewalks, floating transit stops where the bikeway is located behind the A Line BRT stop, and intersection modifications. Two intersections were modified from a freeway style "on ramp" design to conventional traffic signals. This modification allowed for a protected intersection to be included in the design.

TDG prepared a bicycle and pedestrian operational analysis based on Bicycle and Pedestrian Level of Traffic Stress. This analysis quantified the change in the bicycle and pedestrian environment as a result of the project. Overall, the proposed design resulted in a reduced level of stress for both modes, due to the buffer between the sidewalk, bikeway, and vehicular traffic.

The project included a public engagement component, building on the successful development of a multimodal plan for the corridor in 2013. TDG worked with the prime consultant on the development of an online survey and attended one-on-one stakeholder interviews. TDG prepared conceptual layouts and photorealistic rendering for two public open houses to facilitate communication of the concepts with stakeholders.

Client	Minnesota Department of Transportation
Client Contact	Mark Lindeberg, Project Manager 1500 West CO RD B-2, Roseville, MN 55113 651.234.7722, mark.lindeberg@state.mn.us
Duration	February 2016 – June 2017
Budget	$134K
Specific Work Conducted	Non-motorized planning and concept design
Roles by Individuals Proposed for this Contract	Hannah Pritchard, P.E., PTOE, Project Manager Eric Mongelli, P.E., Senior Engineer KC Atkins, P.E., Senior Engineer Brian Tang, EIT, Engineer Greta Alquist, Planner

Forest Acres, SC

Forest Drive Corridor Study

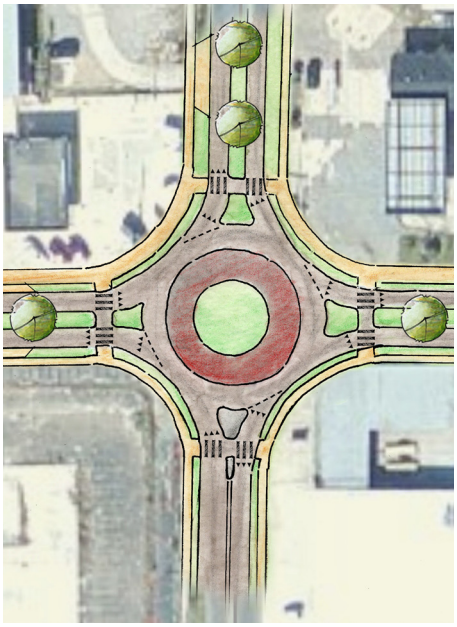
Toole Design Group (TDG), as part of a multidisciplinary team, was retained by the City of Forest Acres to perform the Forest Drive Corridor Study. The project was a comprehensive analysis of transportation and land use along Forest Drive, the City of Forest Acres's central business corridor and one of the busiest roads in the region. Over many years, Forest Drive has become the desired location for many top national commercial and retail businesses. In turn, these land uses, and the continued desirable nature of the area as a residential enclave to Columbia, have made Forest Drive a destination and traffic demand on the corridor has increased.

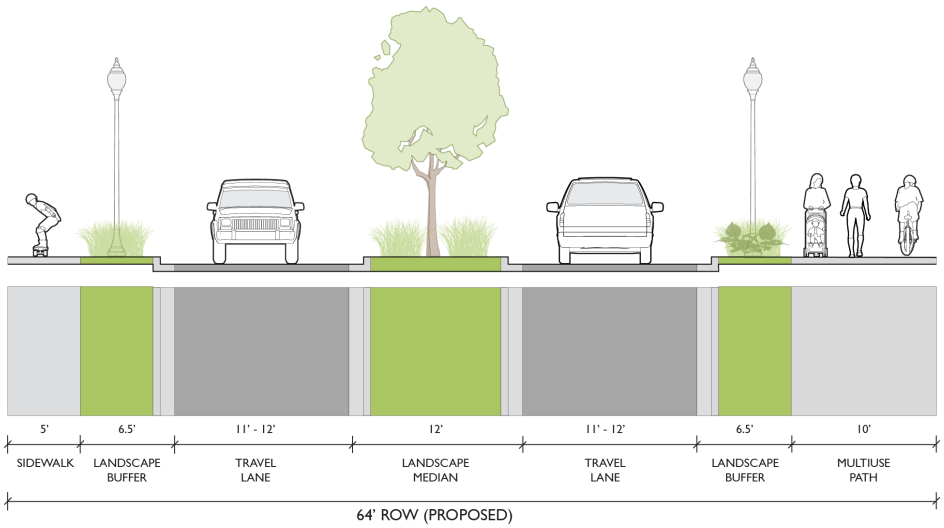
The Forest Drive Corridor Study evaluated both transportation and land use concerns, while employing a Complete Streets approach. TDG led all transportation components of the project, and worked with the team to understand the nexus between transportation and land use. Specific services included existing conditions analysis, motor vehicle flow and access management evaluation, intersection level of service and quality of service analyses, bicycle and pedestrian connectivity and level of comfort evaluation, access to transit considerations, Complete Streets scenarios, recommendations, and implementation planning complete with cost estimating and phasing. Key to the success of the project was identifying methods to interconnect adjacent parcels to develop a secondary network for vehicles, bicycles, and pedestrians, which required a development regulations review to determine methods for continuing this network as new developments come online.

Client	City of Forest Acres
Client Contact	Mark Williams, City Administrator 5209 N. Trenholm Road, Forest Acres, SC 29206 803.782.9475, MWilliams@forestacres.net
Duration	August 2014 – December 2015
Budget	$54K
Specific Work Conducted	Traffic analysis, concept design, transit access, implementation planning
Roles by Individuals Proposed for this Contract	Hannah Pritchard, P.E., PTOE, Senior Engineer

El Dorado, AR

Hillsboro Gateway





HILLSBORO DOWNTOWN
CROSS SECTION TYPICAL

Toole Design Group (TDG) is managing the Hillsboro Gateway multimodal and land use study as part of a multidisciplinary team. The primary purpose of the study is to position the project for implementation by the Arkansas State Highway and Transportation Department (AHTD).

The Hillsboro Street corridor is a gateway into El Dorado, yet does not accommodate multimodal transportation options. Additionally, the corridor has a variety of right-of-way constraints and lacks bike and pedestrian infrastructure. The major goals of the study are to craft transportation and land use solutions that the community can embrace while reducing property impacts in order to enhance the safety for all modes of transportation.

The project team hosted a week-long planning design workshop to identify existing conditions, observe key intersections, and listen to the community. Based on the input gathered, traffic analysis, and review of existing conditions, a conceptual design was developed along with a preferred cross section. Specific considerations to adjacent properties, intersections with high crash counts, and the creation of a multimodal corridor will be part of the conceptual design and final plan for the Hillsboro Gateway study. The plan is anticipated to include a strong network for all people, including those driving cars, walking, biking, living, and doing business along the corridor.

Client	City of El Dorado
Client Contact	The Honorable Frank Hash, Mayor 204 North West Avenue, El Dorado, AR 70730 870.862.7911, mayorhash@eldoradoar.org
Duration	May 2016 – August 2017
Budget	$169K
Specific Work Conducted	Concept design, public engagement, traffic analysis
Roles by Individuals Proposed for this Contract	Hannah Pritchard, P.E., PTOE, Lead Traffic Engineer

Saint Paul, MN

Capital City Bikeway and Jackson Street Reconstruction

Toole Design Group (TDG) led one of the most important public realm improvements for the City of Saint Paul in recent history. As the first downtown project funded by the 8-80 Vitality Initiative, the Capital City Bikeway – Network Study and Design Guide (Guide) and the transformative streetscape design for the reconstruction of Jackson Street sets the standard for implementation of innovative green streets, placemaking, wayfinding, and bikeway design in the urban core.

The Saint Paul Bicycle Plan identified the development of a network of bicycle facilities in the core of downtown as a top priority for encouraging bicycle ridership and economic development. The Capital City Bikeway will be a protected bikeway network in downtown Saint Paul that also connects to regional and state trail systems located on the edge of downtown. Stakeholder engagement was a critical part of identifying routes and developing an urban design approach to create a comfortable experience for all users of the transportation system and encourage economic development.

TDG developed the Capital City Bikeway – Network Study and Design Guide, a document that will continue to guide design and implementation as funding for future phases becomes available. The Guide includes design guidance for the near-term implementation of interim bikeway treatments and initial design concepts for the phased implementation of the Capital City Bikeway vision through street and bridge reconstruction.

Jackson Street is the first fully redesigned and reconstructed portion of the Capital City Bikeway. TDG led the design and engineering for this corridor that will fill a key gap in the bikeway network between the Sam Morgan Regional Trail along the Mississippi River and the Gateway State Trail at the State Capitol. At the core of our approach was creating a memorable, inviting urban streetscape in the heart of downtown. The design includes widened walkways, a signature protected bikeway facility, green infrastructure elements, landscaped buffers, branding, wayfinding, and sitting areas. Construction is currently underway.

Client	Saint Paul Department of Public Works
Client Contact	Dan Haak, P.E., Assistant City Engineer 25 West Fourth Street, 900 City Hall Annex, Saint Paul, MN 55102 651.266.6084, dan.haak@ci.stpaul.mn.us
Duration	March 2015 – June 2017
Budget	$3M
Specific Work Conducted	Concept design, non-motorized planning, public engagement, illustrative graphics, final design, construction oversight
Roles by Individuals Proposed for this Contract	Eric Mongelli, P.E., Principal-in-Charge KC Atkins, P.E., Deputy Project Manager Hannah Pritchard, P.E., PTOE, Senior Traffic Engineer Connor Cox, Planner Greta Alquist, Planner

Romulus, MI

I-275 Bike Path Reconstruction

Surveying Solutions, Inc. (SSI) provided road design, structure, hydraulic, and right-of-way survey services for the I-275 Bike Path Reconstruction project. The project included the reconstruction an existing nonmotorized facility, including signs, pedestrian signals, ADA ramp improvements, and pedestrian structure replacement or rehabilitation.

SSI team member, Tony Thelen, PS, served as the manager of all mapping deliverables. He oversaw the mapping and verification of right-of-way for the existing bike path. Tony ensured that all existing features were collected and all break lines within the site were accurately mapped in order to generate a DTM that accurately represented the site for earthwork quantities.

Client	CDM Smith
Client Contact	Matt Wendling, P.E. 6709 Centurion Drive, Suite 100, Lansing, MI 48917 517.622.2500, wendlingmd@cdmsmith.com
Duration	January 2010 – March 2010
Budget	$127K
Sponsoring Agency	Michigan Department of Transportation
Sponsoring Project Manager	Gorette Young, P.E.
Specific Work Conducted	Road design, structure, hydraulic, right-of-way survey services
Roles by Individuals Proposed for this Contract	Tony Thelen, PS, Manager of Mapping Deliverables

Pedestrian and Bicycle Feasibility and Conceptual Engineering Success

Toole Design Group (TDG) has worked in all phases of transportation planning and design—from high level visions to final design and construction documents. Our measure of success for any of these projects is moving forward and taking the next step towards implementation after our contract is over. The last thing we want are plans or concepts that gather dust on a shelf. This could mean high-level plans going on to concept design, concept designs going on to final designs, or final designs going out to bid. For projects where we have developed final designs and cost estimates, one measure of success is the accuracy of our engineering estimate compared to the construction bids received. We strive to develop feasible, cost-effective designs and are proud to see many of our designs built around the country.

Pennsylvania Avenue in Washington, DC

Our Minneapolis office's signature project—**Capital City Bikeway and Jackson Street Reconstruction**—is one of these success stories. TDG prepared concept designs and worked with the community and stakeholders to develop a preferred alternative. The final design includes widened walkways, a signature protected bikeway facility, green infrastructure

Construction on Jackson Street in Saint Paul, MN

elements, landscaped buffers, branding, wayfinding, and sitting areas. Construction is currently underway and engineering cost estimates were within 1.3% percent of construction bids. Construction has progressed smoothly with only a handful of Requests for Information (RFI), indicating that our design was buildable and considered all the necessary details.

Similarly, our concepts for the **Maryland Avenue NE Pedestrian Safety Corridor Design** in Washington, DC have moved forward. As part of the 2009 District Department of Transportation (DDOT) Pedestrian Master Plan implementation, TDG designed several alternatives, and worked with DDOT and the public to determine a preferred design alternative. This project has now moved forward into design.

In addition to survey-based engineering design, TDG prepares different levels of concepts. Our work on the **South Bend Smart Streets Initiative** included a significant revisioning of downtown South Bend, IN. The City of South Bend wasted no time implementing the recommendations.

"Though the plan was only just completed in the middle of 2014, three of the street projects are already complete and the critical one involving the conversion of the one-way pairs into two-way is under construction. Investment and people are already returning to the downtown. A major thrust of the project is active living so every street was designed to be a complete street. The plan also includes a park and trail system along the waterfront that will be built on reclaimed land that is presently under an overly wide State road that will become a two-lane city street."

– Jitin Kain, Deputy Director, Public Works, City of South Bend

3 Response to Scope of Work

Scope of Work

Project Understanding

The segment of Napier Avenue proposed for this study is an important regional corridor providing access to retail, job centers, educational facilities, residential areas, and the Lakeland Medical Center. However, for walkers, bikers, and transit users, access to these essential needs is hindered by the inhospitable environment. The 40 mph speed limit, wide travel lanes, and lack of dedicated bicycle lanes and sidewalks in most segments of the corridor make the study area difficult to navigate without access to a motor vehicle. These conditions also make it difficult to establish a successful transit system, as riders need safe and accessible bus stops. This is particularly relevant because we know that between 25% and 52% of households within a quarter mile of the corridor study area have no car. Poor conditions for walking and biking, and limited transit access along the corridor creates serious inequities in the ability of people to access the available jobs, services, retail, and educational facilities. Meeting the transportation needs of non-motorized users has the potential to improve the quality of life for many who live within the study area.

The **Toole Design Group (TDG)** Team has extensive experience in envisioning more holistic transportation solutions for primarily motor vehicle-focused suburban corridors. Our approach to the Napier Corridor Pedestrian and Bicycle Feasibility and Conceptual Engineering Plan combines a tested methodology with a strong public participation program. This will result in balanced recommendations that serve all stakeholders along the corridor and will result in balanced recommendations. Core elements of our approach include developing a strong understanding of the project context and needs, performing a baseline review, conducting multimodal transportation analyses, and developing context sensitive solutions based on solid engineering principles and user-focused design.

Public Participation

The TDG Team understands that public participation must be the cornerstone of a successful approach to the project. TDG prides itself on providing a strong and creative approach to public participation that engages residents and stakeholders, builds strong relationships, and garners community support for projects. TDG realizes that the demographics of the study area create constraints which might render more traditional public engagement techniques, such as public meetings or design charrettes, ineffective. The entire planning and design process will be open, transparent, and accessible to ensure that a broad cross section of the public is directly and actively involved. We will seek to achieve "information consensus" where everyone understands the design process and feels that solutions were crafted in a thoughtful and considerate manner.

Public engagement for the Northeast Lowry Avenue project held at an Open Streets event

Multimodal Safety and Comfort

Effective multimodal corridors balance the needs of all users, including those who walk, bicycle, and use transit, as well as those who drive. The TDG Team understands the essential connection between a safe and accessible walking environment and a transit system that effectively attracts riders. We understand that good walking infrastructure is often the precursor of better bicycling conditions, and that the ability to combine bike and bus trips significantly expands the effectiveness of both modes. And we understand that a well-managed connected walking, biking, and transit network also serves motorists by reducing conflicts and offering a real choice of travel modes. Targeted investment in a corridor like this can increase access and safety for those who rely on transit to reach jobs, healthcare, and other essential needs. The TDG Team will draw on experience working on pedestrian and bicycle corridor studies and transit access studies to advance recommendations which not only improve conditions for pedestrians and bicyclists, but also chart a course towards a more convenient and connected transit network.

Approach to Scope of Work

Because the **Toole Design Group (TDG)** planning and engineering staff proposed for this project are based in Minnesota, we have provided our assumptions and suggestions for virtual communication (phone or web conference) and in-person visits in the below scope of work. As national experts, we have experience developing master plans, corridor concepts, and public engagement plans remotely.

We understand the value of in-person communication, and at the same time we aim to be good stewards of our clients' funds. TDG recommends a total of 5 Steering Committee meetings over the 10-month project schedule—3 in person and 2 by phone or web conference. Public input into the process is also key; TDG recommends public engagement events at three points in the project schedule: purpose and need/issues identification, alternatives evaluation, and conceptual design review. The sample travel agendas provided in this scope offer a suggestion for the activities that might occur, and serve as the basis for our travel cost estimate. TDG will work closely with the Southwest Michigan Planning Commission (SWMPC) and the Steering Committee to establish a goal and agenda for each visit.

In addition, our subconsultant, **Surveying Solutions, Inc. (SSI)**, has provided a scope for the survey based on their professional expertise. Their scope balances the request for detailed information with an understanding that waiting to collect certain information, such as information regarding underground structures, may be prudent.

Task 1: Project Kickoff, Public Involvement Plan, and Project Management

This task includes a kickoff meeting and ongoing coordination between TDG and SWMPC, a public kickoff event, a Steering Committee kickoff meeting, and a walking tour of the corridor.

Task 1a: Kickoff and Coordination with SWMPC

During the kickoff meeting, TDG and SWMPC will review the scope, schedule, roles and responsibilities, and communication protocol for the project. This initial meeting will be held remotely, either by phone or web conference.

TDG will work with SWMPC to develop a public involvement plan to identify specific engagement techniques that will be most successful along the Napier Avenue Corridor. At the kickoff meeting, TDG and SWMPC will also discuss public engagement approaches for the project. TDG will provide a draft public involvement plan based on this discussion. The roles and responsibilities of TDG, SWMPC, and the Steering Committee in the engagement process will be clearly defined in this plan. We appreciate that SWMPC plans to be in integral part of the public engagement process, as local agency enthusiasm and involvement is critical to developing trust with the community. As part of this task, TDG will conduct ongoing coordination with SWMPC. TDG recommends a standing bi-weekly check in call between the TDG Project Manager and the SWMPC Project Manager, including as-needed email and phone communication. In addition, monthly invoices and progress reports will be prepared. Each report will include task accomplishments, status of deliverables, and expected upcoming activities.

Task 1b: Kickoff with Steering Committee and Walking Audit

TDG will facilitate an in-person kickoff meeting with the Steering Committee. This half-day meeting will include a discussion of the project's background and roles and responsibilities, and will incorporate an educational walking tour. Due to the length of the corridor, TDG suggests SWMPC reserve a bus or van for the tour so the group can experience walking in the different contexts along the corridor. After the tour, the group will reassemble and TDG will facilitate discussion of the purpose and need of the project, as well as the evaluation criteria for the corridor alternatives. The TDG Team understands the importance of a clearly-defined study goal to the success of the project. TDG will work with the Steering Committee to develop a draft purpose and need statement which will both clearly define the needs of the project corridor and outline a vision for a successful project result.

Task 1c: Kickoff with the Public

Public input in this early stage of the project will be critical; however, based on the high levels of poverty and low levels of car ownership along the corridor, a traditional "open house" meeting where the public is expected to come to us may not be successful. TDG has successfully employed several non-traditional engagement techniques, including pop-up meetings at local events and public places, targeted focus group meetings, demonstration projects, and online engagement.

The goal of this initial engagement will be a needs and issues assessment. The information collected will feed into the purpose and need statement, as well as the existing conditions assessment in Task 2. Our cost estimate for this task assumes

Public outreach at a farmers market

that a highly-interactive in-person engagement activity will be done twice in one day—once out on the corridor, intercepting people at businesses, transit stops, or other destinations, and once at a pre-determined and announced stationary location, such as a public library or community event.

These in-person activities will be supplemented by an online survey or mapping tool to be advertised locally by the Steering Committee members, SWMPC, and other stakeholders. If possible, TDG recommends the use of targeted social media advertising based on zip code/location to promote the online survey.

Trip 1: Kickoff, Purpose and Need, and Field Assessment		
Day 1	Afternoon	Travel
	Evening	Field assessment (Task 2b)
Day 2	Morning	Steering Committee kickoff meeting and walking tour (Task 1b)
	Afternoon	Public engagement – out and about (Task 1c)
	Evening	Public engagement – stationary (Task 1c)
Day 3	Morning	Travel

Task 1 Deliverables:

- Public involvement plan (additional deliverable)
- Purpose and need statement
- Preparation and facilitation for kickoff meetings
- Public engagement activity preparation, facilitation, and summary
- Monthly invoices and progress reports

Task 2: Document Existing Conditions

In this task the TDG Team will collect, evaluate, and summarize existing conditions information about the corridor, including a full engineering survey. This summary will incorporate the needs assessment and issue identification from the public kickoff events described in Task 1. A summary of existing conditions information formatted for public consumption will be made available.

Task 2a. Information Gathering and Base Mapping

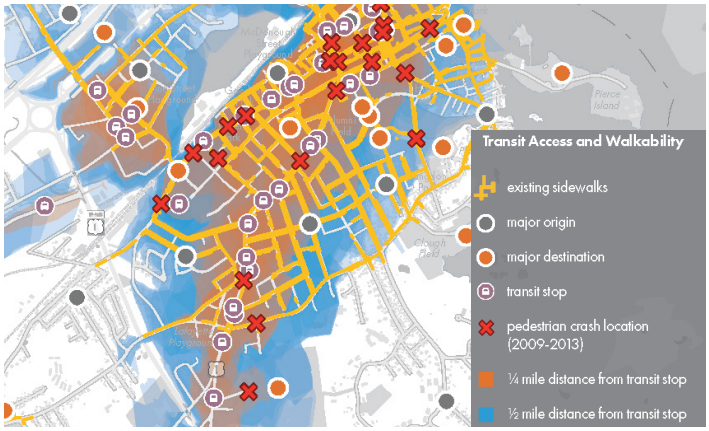
TDG will gather and review relevant and available data such as GIS and aerial information, existing roadway plans, existing planning documents, and future development plans. TDG will collect information about traffic patterns, transit, and user behavior along the study corridor.

SSI will conduct a topographical survey of the study area and document existing features including, but not limited to, utility and lighting poles, overhead lines, manhole and inlet locations, roadway cross section widths, driveway locations, signs, fences, building faces, intersection lane control configuration, sidewalks, crosswalks, curb cuts, right-of-way, parcel data, easement and property ownership information (SSI's detailed technical scope and assumptions are provided in the appendix). SSI's cost estimate includes a 3-dimensional survey extending 25 feet on either side of the right-of-way. The existing right-of-way does not extend much past the existing curb line, and there is potential that pedestrian facilities may fall outside that area. TDG will compile this information into a base map which will be taken into the field for verification and further information gathering.

Task 2b. Field Assessment

TDG staff will conduct field assessment of the corridor to verify the accuracy of the GIS base information and identify other features that may affect design. The TDG Team will perform this assessment prior to the Steering Committee walking audit.

TDG staff conducting field research



Example existing conditions map created by TDG

Task 2c. Existing Conditions Summary

The TDG Team will compile, assess, and document the existing topography, land use, and infrastructure context information into maps. TDG will present the existing conditions summary to the Steering Committee via web conference and make presentation materials available to be posted on a project website hosted by the Client. In-person public engagement for this task is not proposed. The proposed public engagement activities in Task 1 will be designed to obtain input from the public regarding their needs and issues under existing conditions. We find that community members become frustrated by meetings or requests that feel redundant, and would like to save the public's time and energy for the tasks that follow.

Task 2 Deliverables:

- Topographical survey
- Base maps illustrating field assessment and relevant base data
- Existing conditions summary presentation

Task 3: Alternatives Development

TDG will develop up to three concepts for the corridor, work with the Steering Committee to develop an evaluation matrix, and solicit public input on the design concepts. At the end of this task, a preferred alternative will be selected for further concept design (Task 4).

Task 3a. Develop Alternative Concepts

Based on the topographical survey of the corridor, TDG will review possible bicycle and pedestrian alignment options along Napier Avenue. Based on these possible alignments, TDG will create up to three concept level CAD drawings. These drawings will include typical cross-sections and sample plan view drawings of small sections of the corridor. The concepts will illustrate lane widths and alignments, pavement markings, and curb geometries for potential bicycle and pedestrian alternatives on Napier Avenue and possible impacts to adjacent or cross-streets. Reallocation of street space may require the reduction of vehicle travel lane width or curb realignment. TDG will develop high-level cost estimates for each alternative, and identify required permits for construction.

The project Steering Committee will have two opportunities to review the alternative concepts. First, TDG will present the concepts via web conference for initial feedback a few weeks before the in-person visit. This will allow the Steering Committee to vet the concepts prior to public input. TDG will address suggested changes from this meeting.

Task 3b. Public Engagement

In Task 1a TDG will work with SWMPC to develop a public involvement plan to identify specific engagement techniques that will be most successful along the Napier Avenue Corridor. The goal of the second round of in-person engagement is to solicit input and feedback on the three alternative concepts. The TDG Team will summarize major takeaways from the existing conditions analysis and the project purpose and need, and describe how they influenced the alternative concepts.

Task 3c. Develop Evaluation Matrix

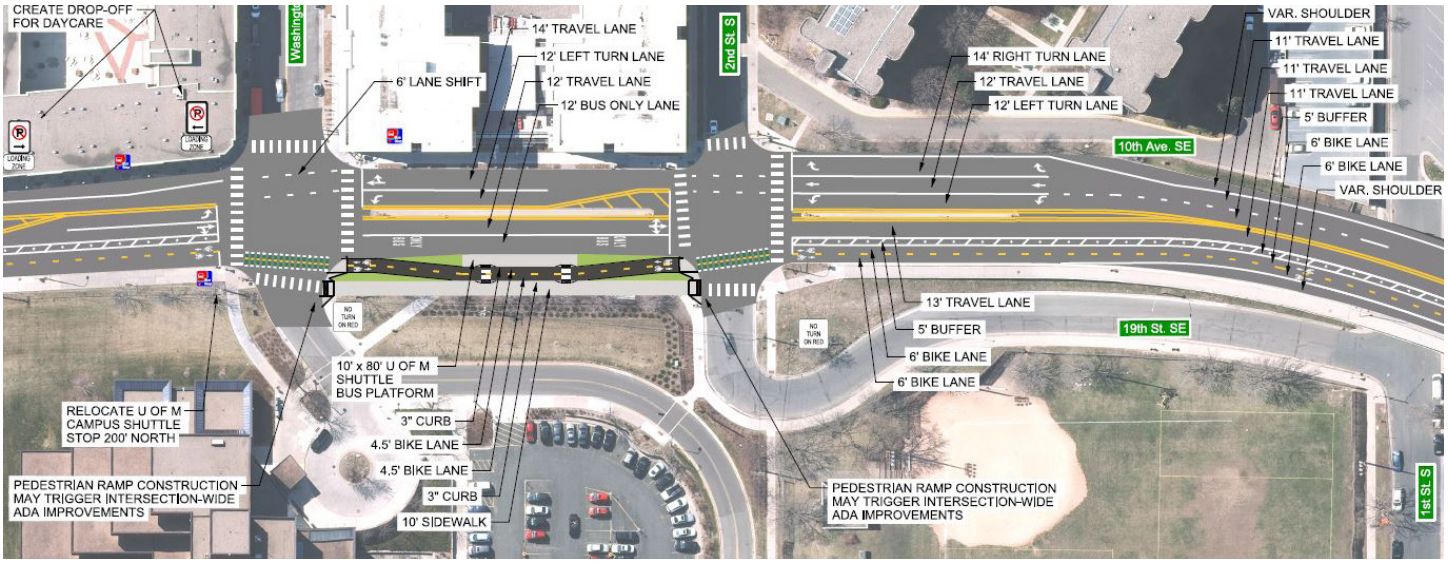
On the second day of the trip, TDG will facilitate a Steering Committee meeting. At this meeting, public input on the

Snelling Avenue Evaluation Matrix

Legend	
High	5
Medium-High	4
Medium	3
Medium-Low	2
Low	1

Core Team Votes	Evaluation Criteria	Option 1: one-way bikeway, both sides		Option 2: two-way bikeway, west side	
		West Side	East Side	West Side	East Side
	Pedestrian safety & comfort				
		5	5	5	3
10	**Measures: modal separation, presence of buffer, potential for reduced speeds**	Bikes and peds separated, buffer for sidewalk is 13 feet, narrow vehicle area may reduce speeds	Bikes and peds separated, buffer for sidewalk is 13 feet, narrow vehicle area may reduce speeds	Bikes and peds are separated, buffer for sidewalk is 16 feet, narrow vehicle area may reduce speeds	Bikes and peds are separated, no buffer between sidewalk and roadway, narrow vehicle area may reduce speeds
	Bicycle safety & comfort				
		5	5	5	4
9	**Measures: modal separation, presence of buffer, potential for reduced speeds**	Bikes and peds separated, buffer for bikeway is 4 feet, narrow vehicle area may reduce speeds	Bikes and peds separated, buffer for bikeway is 4 feet, narrow vehicle area may reduce speeds	Bikes and peds are separated, buffer for bikeway is 4 feet, narrow vehicle area may reduce speeds	Bikeway on west side may be considered inconvenient, result in wrong-way riding on east side
	Minimize impact to vehicle operations				
		5	5	5	5
8	**Measure: Corridor travel time**	Travel time increases, but remains within an acceptable range	Travel time increases, but remains within an acceptable range	Travel time increases, but remains within an acceptable range	Travel time increases, but remains within an acceptable range
	Minimize reconstruction required on Snelling (bridges and roadways)				
		4	4	1	2
7	**Measure: number of bridges (and type of impact), ramp and intersection reconstruction**	May require redecking four bridges, widening ramps at **Como**, realigning ramps at **Pierce Butler** and **Energy Park**	May require redecking four bridges, widening ramps at **Como**, realigning ramps at **Pierce Butler** and **Energy Park**	May require complete reconstruction of southbound Snelling to add left-turn lanes at **Pierce Butler** and **Energy Park**, including widening ramps at **Como**. **Fatal Flaw?**	May require redecking four bridges to add sidewalk width, realigning ramps at **Pierce Butler** and **Energy Park** to create three-way intersection. Reconstruction of SB Snelling may prompt reconstruction of NB

Example evaluation matrix for corridor alternatives



Sample MicroStation-based conceptual design work product prepared by staff proposed for this project

alternative concepts from the day before will be summarized and discussed. TDG will present a draft evaluation matrix, and guide the group through its application to the proposed alternatives. The result of this meeting will be progress towards the selection of a preferred alternative to carry forward into concept design.

Task 3 Deliverables:

- Up to three sets of plan and typical section drawings
- List of required permits
- Cost estimates for each alternative
- Public engagement summary (presented at Steering Committee meeting)
- Evaluation matrix and its application

Trip 2: Alternatives Evaluation		
Day 1	Morning	Travel
	Afternoon	Public engagement – out and about (Task 3b)
	Evening	Public engagement – stationary (Task 3b)
Day 2	Morning	Summarize public input/prep for meeting
	Afternoon	Steering Committee meeting
Day 3	Morning	Travel

Task 4: Develop Conceptual Engineering Design Plan for Preferred Alternative

Task 4a. Conceptual Design

TDG will work with the Steering Committee and SWMPC to further refine the preferred design alternative into 30% preliminary design plans. TDG will incorporate information gathered during the field assessment as well as any refinements proposed during Task 3. These preliminary drawings will consist of the design of horizontal, vertical alignments, and cross sections to determine construction limits. The alternative proposed in Task 3 will be finalized with further detail, including key treatments, dimensions, signing, pavement marking, etc.

Task 4b. Steering Committee Meeting and Public Engagement

TDG staff will travel to the study area to facilitate one public engagement event and one Steering Committee meeting to discuss and solicit input on the proposed concept design. The concept designs will be provided to the Steering Committee members in advance of the meeting.

Trip 3: Present Preferred Alternative		
Day 1	Morning	Travel
	Afternoon	Steering Committee meeting
	Evening	Public engagement – stationary
Day 2	Morning	Travel

Task 4c. Revised Concept Design

Based on feedback from the Steering Committee and SWMPC, TDG will incorporate one set of comments into a revised concept design. In addition to in-person feedback, TDG will incorporate any written comments or markups provided in a consolidated set by SWMPC.

Task 4 Deliverables:

- 30% design plans
- Cost estimate

Task 5: Design Memorandum

TDG will develop a design memorandum summarizing the design process and describing next steps. The memorandum will provide brief descriptions of each of the preliminary design concepts and summarize the decision-making process used to select the preferred option, including the evaluation matrix. The report will also describe funding options.

Task 5 Deliverables:

- Draft design memorandum
- Final design memorandum

Task 6 (optional): Traffic Analysis

TDG has included an optional fee to conduct traffic analysis of the design alternatives proposed for the study corridor. TDG has extensive experience conducting traffic analyses to assess recommendations, such as the impact of removing a vehicular travel lane to reallocate space for bicycle or pedestrian facilities. The traffic analysis approach will consist of data collection, including turning movement counts at key intersections and traffic signal timings, review of area plans to determine an appropriate growth rate assumption for future traffic, and the modeling of existing and proposed lane configuration.

6a. Coordination with SWMPC Staff

TDG will conduct up to three additional coordination calls with SWMPC staff. During these calls, TDG will identify up to 12 signalized and un-signalized study intersections. The best approach to data collection will be discussed with SWMPC staff. TDG will work with SWMPC staff to finalize the study peak hours, growth rate, and horizon year. If the traffic analysis task is selected, TDG will work with SWMPC to identify how the traffic analysis fits into the overall scope and schedule of the project.

6b. Data Collection

TDG and SWMPC staff will determine the best approach to data collection at each intersection. Data collection should include turning movement counts at each study intersection as well and bicycle and pedestrian counts. The cost estimate provided does not include the cost for a vendor to take these counts. TDG will obtain signal timing information for use in Synchro/Simtraffic models, and process data collected by a vendor or provided by SWMPC or other project partners.

6c. Existing and Future Conditions Analysis

Synchro/SimTraffic models will be developed for AM and PM peak periods for scenarios with existing lane configurations, one "no-build" configuration, and three "build" scenarios representing each of the proposed concept alternatives. Future scenarios, including "no-build" and "build" scenarios, will not include traffic from other proposed projects along the corridor; this additional traffic will be assumed to be included in the agreed-upon background traffic growth rate.

6d. Documentation of Results

TDG will document the data collection and analysis approach and summarize key findings in a final report. TDG anticipates two rounds of comments from SWMPC staff.

Task 6 Deliverables:

- Existing, "no-build," and three "build" Synchro models
- Traffic memorandum, including a summary of findings

TDG performed Synchro analysis for 15 intersections along the University Avenue Corridor

Management Plan & Approach

Proposed Approach and Understanding of Needs

Toole Design Group's (TDG) project understanding and proposed scope of work are presented in detail in the previous section. Our approach is based on two key cornerstones—**public participation** and **multimodal safety and comfort**. A robust public participation process will allow the project team and stakeholders to identify the community's values and their vision for the corridor. While the addition of consistent sidewalk facilities along the corridor seems like an obvious design solution, there may be opportunities to increase safety, comfort, and accessibility for both pedestrians and people on bikes. TDG engineers understand their role in the larger planning process and seek to provide information for community decisions makers, rather than drawing the conclusions ourselves. In addition, our traffic engineers have been at the forefront of evaluating and testing new ways to measure and quantify the impacts of multimodal improvements. We have helped communities quantify the benefits of an enhanced bicycle or pedestrian space, so that the benefits and impacts for all modes can be evaluated.

Expertise of the Team

The TDG Team's expertise is an excellent fit for the requested project scope. From the Project Manager to the design and planning staff on the team, all the TDG staff have extensive experience in corridor studies, concept designs, and bicycle and pedestrian infrastructure. The roles of each of our proposed key staff members and their qualifications are provided in detail under Qualifications and References.

Two key areas of consideration for implementing the contract are as follows:

- Review and define scope for engineering survey
- Incorporate traffic analysis into the project scope

As mentioned in the project scope, **Surveying Solutions, Inc. (SSI)**, our surveying subconsultant, provided an estimate and scope for data collection based on the RFP, response to questions, and their professional judgement regarding what may be needed to perform this study. Revisions to this scope (e.g., reducing boundaries from 25 feet outside the right-of-way or incorporating a full underground survey) may result in a change in cost.

In addition, TDG has the capability to perform traffic analysis for the corridor. The rationale for including traffic analysis may depend on potential concept designs and the community tolerance for changes to traffic conditions. If designs that reduce vehicle capacity are likely (such as a four-lane to three-lane conversion), and local businesses or residents are likely to be concerned about vehicle travel times, a technical analysis of traffic conditions can help address concerns.

Client Communication and Coordination

The TDG Team understands the importance of strong communication in delivering a successful result while effectively managing scope, schedule, and budget. **Hannah Pritchard, P.E., PTOE**, our assigned Project Manager, is highly skilled in the art and science of project management. Through a strong focus on organization and communication, she has a track record of delivering high-quality projects. TDG recommends scheduling a standing, bi-weekly conference call between Hannah and the SWMPC Project Manager.

This call will be used to provide regular updates pertaining to the status of project deliverables, and plan for Steering Committee meetings. Key TDG Team staff will be included in these calls as needed. These regular check-ins will help ensure that any obstacles to delivering quality products on schedule are managed early. Additionally, monthly progress reports will provide SWMPC with documented updates on tasks, deliverables, and schedule.

Team Member and Subconsultant Management

Following a notice to proceed, an internal Project Management Plan (PMP) will be developed for the Napier Avenue project. The PMP will outline the interrelationship between the scope of services and the schedule. Project milestones will be documented along with critical path items that must be achieved. The PMP will be monitored and refined throughout the project cycle. Hannah will facilitate an internal kickoff meeting with TDG staff outlining team member roles and responsibilities. Over the course of the project, regularly scheduled check-in meetings and interim deadlines will help keep TDGs efforts on time and on budget.

To provide our clients with exceptional project management, TDG also employs a state-of-the-art project management software platform, Deltek's Ajera Complete. Ajera allows project managers to see real-time project resource information. The online software provides us the ability to instantly update and monitor project budgets and schedule staff weeks in advance so we know that resources are available when we need them. As hours are charged to the project, they are instantly updated in the Ajera system, providing up-to-the-second budget monitoring that allows project managers to always know the status of their projects.

Proposed Staffing Plan and Availability

The **Toole Design Group (TDG)** Team is committed to providing excellent client services. We have carefully reviewed the availability of our key staff for this project, and are confident that each of the following individuals will be engaged for the duration of the project. In addition to the key staff shown here, we anticipate support from local planners and engineers, such as **Connor Cox** and **Brian Tang, EIT** who are shown on the organizational chart. In addition to those shown here, there are 10 technical staff in the Minneapolis office, and 130 TDG designers and planners across the country who can assist if needed.

Roles and Responsibilities of Key Staff

The project team members that we feel will be essential to the delivery of the proposed scope are shown below, along with their anticipated roles on the project.

Eric Mongelli, P.E., Principal-in-Charge
Years of Experience: 25
Role: Overall project oversight and guidance, quality control
Location: Silver Spring, MD

Hannah Pritchard, P.E., PTOE, Project Manager
Years of Experience: 11
Role: Manage scope, schedule, and budget, primary point of contact for SWMPC, lead for all technical analysis, concept design, and community engagement
Location: Minneapolis, MN

KC Atkins, P.E., Design Lead
Years of Experience: 10
Role: alternative design development, alternative evaluation, conceptual engineering design
Location: Minneapolis, MN

Greta Alquist, Transportation Planning Lead
Years of Experience: 8
Role: community engagement plan development and implementation
Location: Minneapolis, MN

Availability

Team Member and Title	Percent Time Avilable	
	2017	2018
Toole Design Group, LLC		
Eric Mongelli, P.E., Principal-in-Charge	10%	15%
Hannah Pritchard, P.E., PTOE, Project Manager	70%	95%
KC Atkins, P.E., Design Lead	80%	95%
Greta Alquist, Transportation Planning Lead	65%	85%
Connor Cox, Planner	60%	95%
Brian Tang, EIT, Engineer	75%	100%
Surveying Solutions, Inc.		
Jesse Bruning, P.E., PS	50%	75%
Tony Thelen, PS	50%	75%

Subconsultant's List of Current Clients

Over the past 15 years, **Surveying Solutions, Inc. (SSI)** has providing exceptional service throughout the State of Michigan. A list of their current clients is below.

Jesse Bruning, P.E., PS

Gordie Howe International Bridge
Michigan Department of Transportation
SSI serves as the prime consultant providing design survey services for demolition of buildings at proposed GH International Bridge Plaza Area at Detroit in Wayne County.

Consumers Energy CAP/EIRP
Consumers Energy
SSI serves as the prime consultant providing mapping to aid in the design of numerous gas pipeline replacement projects located throughout the gas service areas in lower Michigan.

I-94
AECOM / Michigan Department of Transportation
SSI serves as the subconsultant providing Design Survey along I-94 from east of Lovers Lane to west of Sprinkle Road in Kalamazoo.

Tony Thelen, PS

I-196; Design Survey

FTC&H / Michigan Department of Transportation

SSI serves as the subconsultant providing design survey for HMA mill and resurfacing from I-94 to north of M-63 in Berrien County.

I-94BL/M-43

CDM Smith / Michigan Department of Transportation

SSI is the subconsultant providing design survey. The project's intent is for future transportation improvements on the Stadium Drive and Kalamazoo Avenue and Michigan Avenue corridor in Kalamazoo.

I-94

AECOM / Michigan Department of Transportation

SSI serves as the subconsultant providing design survey along I-94 from east of Lovers Lane to west of Sprinkle Road in Kalamazoo.

Performance Audit Plan and QA/QC Plan

TDG has a reputation for high quality work and outstanding performance on multimodal planning and design projects throughout the US. TDG staff are highly qualified, with extraordinary attention to detail. As a leader in multimodal projects, our company focuses on continuing to improve staff capabilities and understanding of best practices in our field. As part of our commitment to maintaining the highest level of quality, TDG employs a rigorous Quality Assurance/Quality Control (QA/QC) program to control the quality of our work, and that of our subconsultants.

All members of TDG staff are responsible for understanding project requirements and for the quality of their own work. Every TDG project is assigned a Principal-in-Charge—a senior staff member who takes personal responsibility for the TDG team's performance on the project. Every TDG project begins with an internal kickoff meeting. At this meeting, the Project Manager and Principal-in-Charge work with the project team to clearly define and document roles and responsibilities of all team members on the project and discuss the appropriate QA/QC process. Even before a project begins, the TDG Project Manager has considered the time and energy required to appropriately review and approve all project deliverables as part of the proposed cost and schedule.

TDG is happy to share our full QA/QC policy and program with our clients. However, the program can be summed up simply—no report, drawing, or product of any kind leaves our office without a documented review. We demand the same level of performance from our subconsultants, and their work is thoroughly reviewed by our senior staff before being submitted to the client.

SWMPC's Expected Contribution

The TDG Team is excited to work with SWMPC, and anticipates the agency will provide a high level of engagement in the project. We expect SWMPC will be able to contribute the following:

- Regular communication with the TDG Team
- Steering Committee invitations – both the initial invitation and scheduling for the four meetings during the project
- Steering Committee facilitation – the SWMPC Project Manager will serve as the "chair" of the Steering Committee and will be responsible for keeping meetings on schedule and on topic as necessary
- Advertisement and promotion of public engagement activities
- Website hosting for a project website
- Timely reviews of deliverables and work products
- Consolidation and review of Steering Committee comments on work products – in the event of a conflict in comments between stakeholders, SWMPC will decide and provide guidance to the TDG Team on how to proceed

4 Schedule

Schedule

Toole Design Group (TDG) is committed to meeting or exceeding the Southwest Michigan Planning Commission's expectations for this project in a timely manner, and will commit our staff and resources throughout this project. Our proposed timeline for completion of the project is below.

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
Task 1: Project Management and Kickoff Meeting										
Kickoff and coordination with SWMPC staff	■									
Kickoff with Steering Committee		X								
Kickoff with the public		X								
Monthly progress reports	■	■	■	■	■	■	■	■	■	■
Task 2: Document Existing Conditions										
Survey	■	■	■							
Information gathering	■	■	■							
Base map preparation and existing conditions summary			■							
Field assessment		X								
QA/QC Review			■							
Task 3: Alternatives Development										
Design concepts			■	■						
Public engagement and Steering Committee				X						
Evaluation criteria (and Steering Committee meeting)				X						
Task 4: Concept Development										
Concept development					■	■	■			
Steering Committee and public engagement								X		
Revised concept								■	■	
Task 5: Design Memorandum										
30% design memorandum									■	■
QA/QC										■
Task 6: Traffic Analysis *(optional)*										
Coordination with SWMPC staff	■	■	■	■						
Data collection	■									
Analysis		■	■	■						
Documentation of results				■	■	■				

X – *indicates in-person activities*

5 Cost Proposal

6 Performance Measures

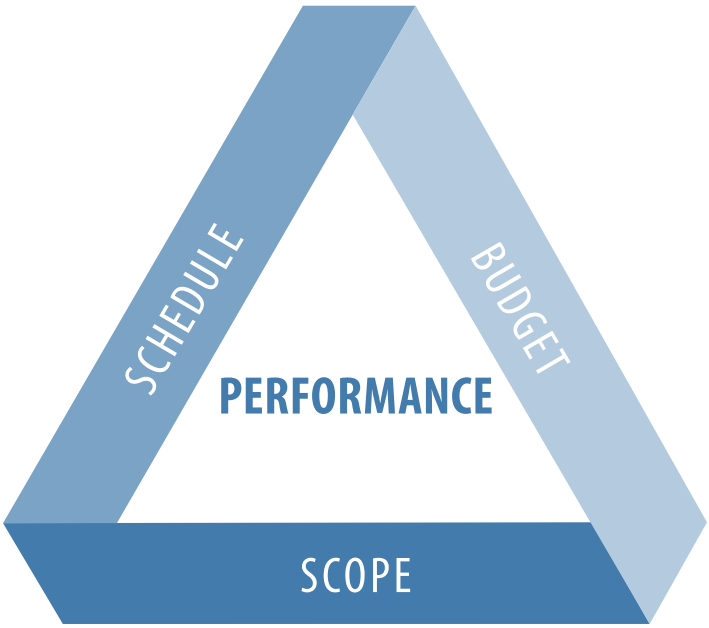
Performance Measures

Performance Evaluation

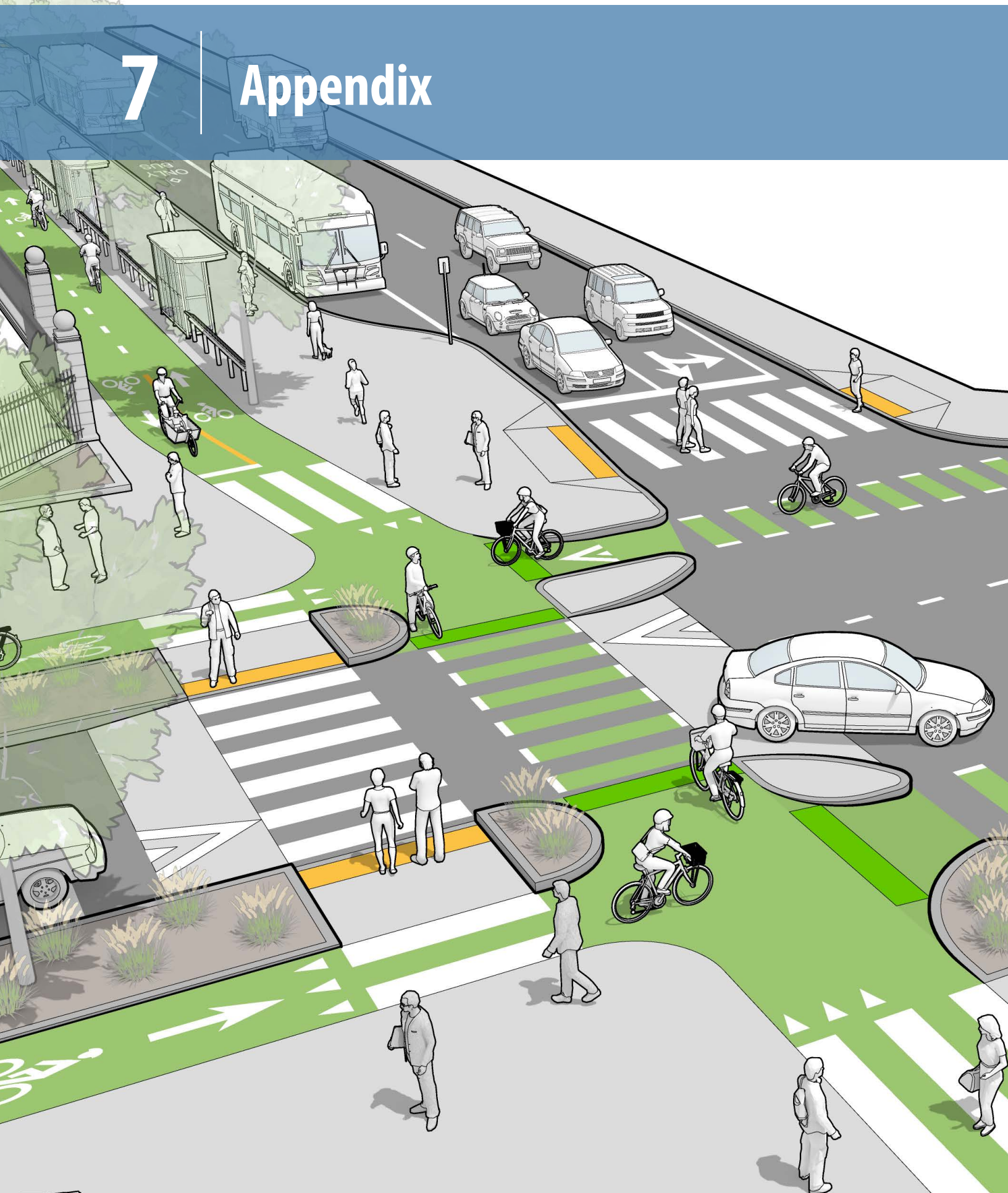
Toole Design Group (TDG) strives to develop strong relationships with clients, and understands the importance of clearly defining expectations to delivering successful projects. If selected, TDG will work with Southwest Michigan Planning Commission (SWMPC) staff to develop a system for project evaluation that will guide the final products and the team's performance throughout the duration of the project. TDG suggests the performance measures for the project be based on the scope, schedule, and budget for the contract. Our suggested measures are as follows:

- Scope – Were the agreed upon deliverables developed to an acceptable level of quality?
- Schedule – Was the project completed within the proposed 10-month time frame? If not, did SWMPC and the TDG Team communicate regarding reasons for delay and agree to schedule extensions?
- Budget – Was the project completed within the originally agreed upon budget? If additional funding was provided, did the TDG Team provide documentation of the need for additional funds as they occurred (e.g. additional scope, schedule change, unforeseen challenges)?

TDG recommends checking in on these performance measures after each major deliverable—existing conditions, alternatives development, and concept development. This check-in would occur during a regularly scheduled bi-weekly call between the TDG Project Manager and SWMPC.



7 Appendix



Appendix

Surveying Solutions, Inc.

Survey Work Plan – Napier Corridor Pedestrian and Bicycle Feasibility and Conceptual Engineering Plan

As a subconsultant, **Surveying Solutions, Inc. (SSI)** will conduct a road design and right-of-way survey on Napier Avenue from the Saint Joseph River to I-94 in St. Joseph Charter Township and Benton Charter Township, Berrien County. SSI will provide design survey services to capture topographic features as specified under Task 2 – Document Existing Conditions of the Request for Proposals (RFP) from 25 feet south of the right-of-way to 25 feet north of the right-of-way. SSI will utilize Mobile Light Detection and Ranging (LiDAR), or MoLi, Scanning to enhance efficiency and accuracy and to provide minimal impact to the traveling public on this busy corridor. SSI staff is very familiar with the area, having completed several surveys within the Southwest Region in past years. SSI will take advantage of this knowledge and experience to provide a safe and efficient survey plan.

Traffic and Safety Requirements

SSI will contact the Berrien County Road Commission to discuss traffic and safety requirements regarding all work activities in the project area. No lane or shoulder closures are anticipated for this project. Standard survey signing will be placed during field activities and this time is included within SSI's task hours.

Control

SSI will develop a 3D coordinate system throughout the project based on the Michigan State Plane Coordinate System (MCS 83), NAD1983, Michigan South Zone. During the MoLi collect, SSI will collect sufficient data on one control point to obtain a position based upon the NGS Online Positioning User Service (OPUS).

Additional horizontal control will be established at approximately 2,000-foot intervals throughout the project. These points will be positioned based upon Real Time Kinematic (RTK) measurements from a base station placed on the OPUS control point. The vertical component will be based on the elevation obtained from the OPUS solution, which will be on the North American Vertical Datum of 1988, GPS derived. SSI will establish benchmarks at a similar spacing as the control points and will run digital level loops to establish accurate elevations on all project horizontal and vertical control points. The completed horizontal and vertical control network will be the basis for additional control required for MoLi as described below. Descriptions and coordinate information will be provided for control and benchmarks, but no witnesses will be obtained.

Alignment

SSI will retrace the legal alignments for Napier Avenue within the project limits based upon ties to adjacent government corners. The legal alignment will then serve as the basis for establishing the right-of-way for the project.

Property

SSI will develop legal right-of-way for the project based upon legal alignment, deed research, occupation, and monumentation. A thorough search will be conducted along the current right-of-way for monumentation and occupation to support the establishment of the legal right-of-way. No individual parcel surveys will be conducted, but individual property lines and parcel identification will be shown.

MoLi

SSI will place Scan Acquisition Targets (ScATs) and Validation Targets (VaTs). ScATs and VaTs will be positioned based on the established control using RTK observations. These points will be leveled through as part of the digital level loop and minimally and fully constrained adjustments will be performed on the level loop. Approximately 40 targets will be placed on the outside edge of the roadway at optimum locations.

Mapping

SSI will provide topographic mapping within the project limits using a combination of MoLi and conventional methods. SSI proposes to use MoLi for most of the project. Some areas outside of the hard surface will be mapped with conventional methods as needed with a total station and/or RTK survey methods utilizing Field Genius data collection software. SSI realizes that changes in terrain, breaklines, and other topographic features may need to be mapped so as to provide

a complete map and terrain surface. The features that will be collected are specified in the RFP. Individual trees larger than six inches in diameter will be mapped, but if there is a large group of trees, just a tree line will be provided. Regardless of the collection method, all data will be merged to provide a complete, homogeneous planimetric map and terrain surface.

Drainage/Utilities

SSI will locate and map all culverts within the mapping limits. All drainage structures (CB, STMH, SMH, etc.) will also be mapped, described, and correlated by point number in the drawing. Invert elevations for structures will be measured for each pipe which will be described by type, size and direction for structures outside of the back of curb. NO INVERTS will be collected for structures between the back of curb. SSI will also map above-ground visible utilities and has allotted 16 hours of office time to correlate this information to provided underground utility information.

Method

SSI will complete mapping, Digital Terrain Modeling, processing, editing, and clean-up for the entire road design and right-of-way surveys for this project. Survey data processing will be completed using MicroStation V8i/ Power Geopak (SS4) and the latest MDOT workspace (MDOT_02), symbology and level library.

REQUIRED FORMS AND CERTIFICATIONS

ADDENDA

The undersigned acknowledges receipt of the following addenda to the document:

Addendum No. 1, Dated 5/30/2017

Addendum No. _____, Dated _____

Addendum No. _____, Dated _____

Failure to acknowledge receipt of all addenda may cause the bid to be considered non-responsive to the solicitation. Acknowledged receipt of each addendum must be clearly established and included with the offer.

The undersigned understands that any conditions stated above, clarifications made to above or information submitted on or with this form other than that requested, will render bid unresponsive.

Toole Design Group, LLC

(Name of Individual, Partnership or Corporation)

8484 Georgia Avenue, Suite 800, Silver Spring, MD 20910

(Address)

(Authorized Signature)

President

(Title)

6/9/2017

(Date)

301.927.1900

(Telephone)

AGREEMENT OF GOODS and SERVICES

TO: Southwest Michigan Planning Commission
376 W. Main Street
Suite 130
Benton Harbor, Michigan, 499085

The undersigned hereby agrees to furnish the goods and services as listed below in accordance with the specifications which have been carefully examined and are attached.

Signed: 

Printed Name: Jennifer L. Toole, AICP, ASLA Title: President

Date: 6/9/2017 Telephone: 301.927.1900

For (Company): Toole Design Group, LLC

Address: 8484 Georgia Avenue, Suite 800, Silver Spring, MD 20910

CERTIFICATE OF NON-COLLUSION

I hereby swear (or affirm) under penalty for perjury:

1. That I am the Bidder or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the attached bid has been arrived at by the Bidder independently and has been submitted without collusion and without any agreement, understanding, or planned course of action with any other vendor of materials, supplies, equipment, or service described in the Invitation for Bid, designed to limit independent bids or competition;

3. That the contents of the bid have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bidder, and will not be communicated to any such person prior to the official opening of the proposals; and,

4. That I have fully informed myself regarding the accuracy of the statement made in this affidavit.

Signed _____

Firm Name Jennifer L. Toole, AICP, ASLA

Subscribed and sworn to before me this 9th day of June, 20 17

_____
Notary Public

My commission expires September 8, 2020

HADASSAH VASHTI MCPHERSON NOTARY PUBLIC MONTGOMERY COUNTY, MD MY COMMISSION EXPIRES SEPTEMBER 8, 2020

Bidders E.I. Number 05-0545429
(Number used on employer's Quarterly Federal Tax Return)

6/9/2017
Date

Toole Design Group, LLC
Bidder

Jennifer L. Toole, AICP, ASLA, President
Authorized Representative

Toole Design Group
212 Third Avenue North, Suite 476
Minneapolis, MN 55401
612.584.4094 f 301.927.2800
www.tooledesign.com