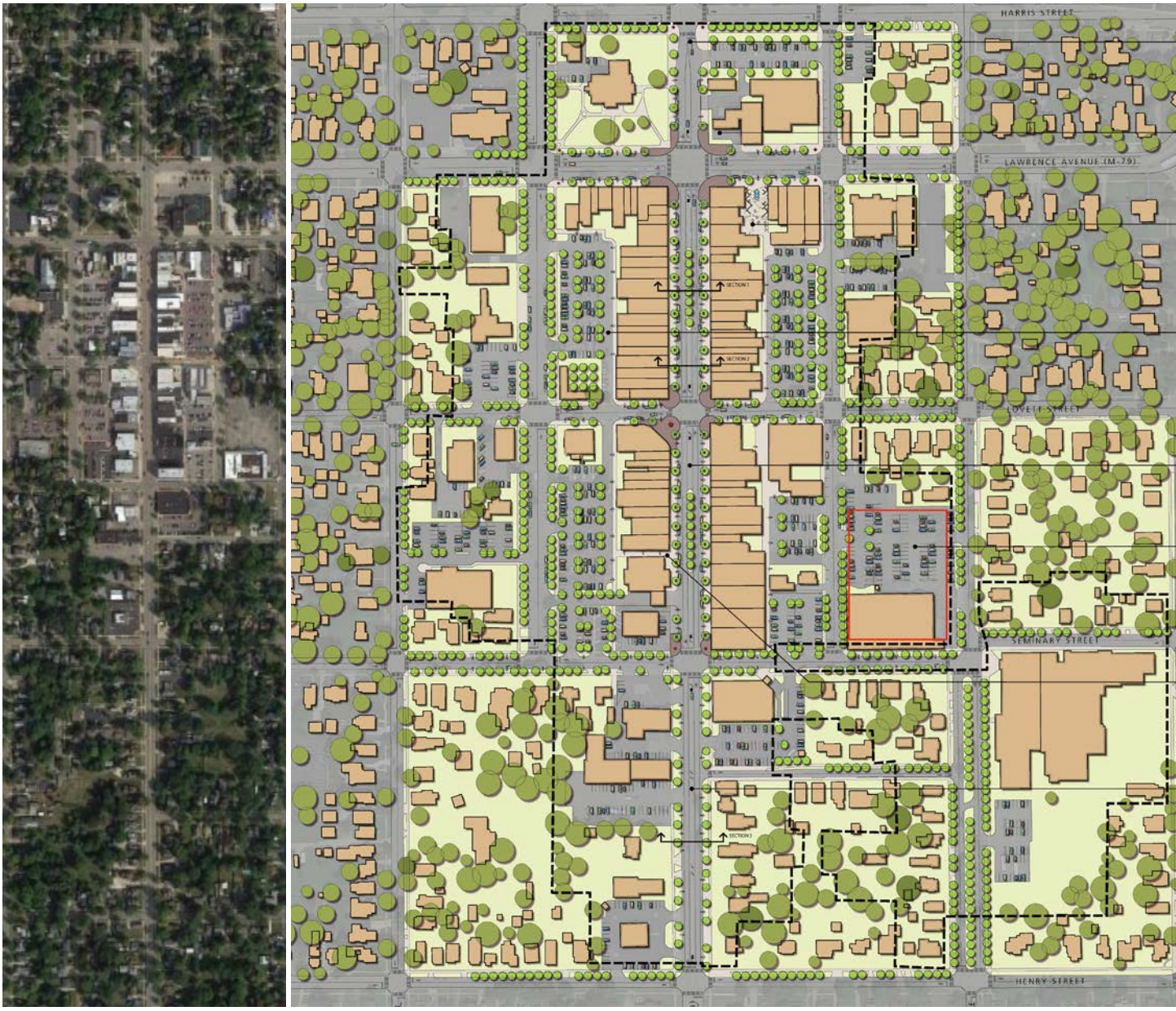
City of Charlotte

Traffic Engineering Services for Road Diet Capacity Analysis Along M-50 (Cochran Avenue) & Adjacent Local Streets

November 9, 2018



progressive ae

progressive ae

1811 4 Mile Road NE
Grand Rapids, MI 49525
phone 616.361.2664
fax 616.361.1493
progressiveae.com

November 9, 2018

Bryan Myrkle, Community Development Director
City of Charlotte
111 E. Lawrence Avenue
Charlotte, MI 48813

Re: Proposal for Traffic Engineering Services
M-50/Cochran Avenue Road Diet Capacity Analysis

Dear Mr. Myrkle:

Taking a deeper look at the traffic activities for the most travelled roads within the City of Charlotte will provide the insight required to make the best planning decisions for your community. To that end, Progressive AE is pleased to submit the enclosed proposal for providing traffic engineering services related to the Road Diet Capacity Analyses for the Cochran Avenue/M-50 corridor through downtown Charlotte. Our understanding of the requested analyses is based upon the detailed information contained in the RFP, your responses to questions posed, and background knowledge of the downtown and this project from Progressive AE team members.

It's our understanding that the City of Charlotte wishes to follow up on last year's Downtown Framework Plan that encompassed initial conceptual plans for completing a four-to-three lane conversion on Cochran Avenue. Given MDOT's jurisdiction on this section as part of M-50, the next critical task is to empirically define how well a three-lane cross section will function in the near and longer terms, along with defining how best to implement additional walkability elements.

As your prime consultant, Progressive AE will complete most of the tasks outlined in the RFP as we have four of the five required MDOT prequalification categories and have extensive experience with road diet projects. In addition, we have brought on board two key team members based upon their excellent related experience. Traffic Engineering Associates (TEA) will be completing the Safety Study portion of the analyses and Beckett Raeder, who assisted the city with the 2017 Framework Plan, will be providing enhanced concept graphics for the public/stakeholder meetings and attend at least two of those meetings.

Upon award, Progressive AE's primary contact for this project will be Chris Zull, our new Transportation Practice Leader and could be reached at zullc@progressiveae.com or 616.361.2664. As the Principal-in-Charge, Theresa Petko will provide authorized signature on contractual agreements for this project. We welcome the opportunity to discuss this project further with you and to address any questions you may have regarding the following proposal. Should you have any questions or require additional information, please do not hesitate to contact our offices at 616.361.2664 or lamourie@progressiveae.com.

Sincerely,

Progressive AE

Peter C. LaMourie, P.E. PTOE
Lead Transportation Engineer

Service Provider Infomation

FIRM INFORMATION

Progressive AE is headquartered in Grand Rapids, Michigan, with offices in Charlotte, North Carolina, and Holland and Muskegon, Michigan. Progressive AE would base all of the work completed through this agreement with the City of Charlotte out of our Grand Rapids office. With capacity to work on hundreds of projects each year, we can assure you that we have the available resources to handle your project. Theresa Petko will serve as the Principal-in-Charge on this project.

Origin: 1962
Current Size: 230 Employees
Organization: Progressive AE, Inc. is a private, employee-owned company

Locations:

Grand Rapids
1811 4 Mile Rd. NE
Grand Rapids, MI 49505
616.361.1493

Charlotte
330 South Tryon St. #500
Charlotte, NC 28202
704.731.8080

Holland
3 W. 8th St.
Holland, MI 49423
616.361.2664

Muskegon
800 Ellis Rd. #144
Muskegon, MI 49441
231.799.4960

RELATIVE EXPERIENCE

Progressive AE has provided innovative and sustainable architectural and engineering services for more than 55 years. The firm is guided by a fundamental and forward-thinking philosophy that design should drive organizational performance. Progressive AE's workforce is a unique blend of creative people who think strategically, and strategic people who work creatively. Our passion for community is evident in who we are and what we do. Firm overviews and qualifications for the team we are proposing to work on this project are included on the following pages.

Project examples provided later in our proposal include projects of similar scope and scale that Progressive AE, Beckett & Raeder, Inc. or Traffic Engineering Associates, Inc. has recently completed or is currently working on.

WBE/MBE QUALIFICATION

Progressive AE is neither a Women or Minority Owned Business, however, Transportation Engineering Associates, Inc. is a qualified Women Owned Business.

WHERE WE WORK

Progressive AE completed 58.76% of the total projects in the last year within the State of Michigan. No work was performed in Eaton County.

Beckett & Raeder, Inc. (BRI) performs approximately 98% of its work in the State of Michigan annually. Approximately 1% is performed in Eaton County. The Charlotte Road Diet Analysis project will be staffed out of BRI's Ann Arbor office.

Transportation Engineering

Our firm has continued to innovate for more than half a century. We have gained considerable wisdom over those years and seen remarkable growth with offices in Michigan and North Carolina and active work in the 48 contiguous states. With 200+ professionals and a full range of expertise, Progressive AE is leading the way in thought leadership and innovative design.

One thing we know is each client faces one-of-a-kind needs that must be met, while keeping the future in mind. This is exciting to us. No challenge is too great, thanks to our comprehensive range of services.

Whatever discipline is required, we have subject matter experts on hand to find the right solution. Our areas of expertise include:

- Architecture
- Design-build
- Engineering
- Interior Design and Procurement
- Transportation Engineering
- Landscape Architecture and Urban Planning
- Planning and Consulting
- Water Resources

We are passionate about enhancing communities and understand the important role transportation engineering plays to make this happen. To this end, Progressive AE employs a dedicated group of transportation engineers who are experts in their fields. Our transportation engineers excel in transportation planning, transportation engineering, traffic analysis and signal design. They stay abreast of industry trends and best practices, making them well-equipped to speak the language of other transportation engineers, government officials, and concerned citizens.

Progressive AE has been involved with numerous transportation projects for a variety of clients including universities, local municipalities, Department of Transportations, and private sector clients. Through projects with these agencies, we have improved the efficiency of transportation systems through the planning, design, operations, and maintenance of existing infrastructure.

Services Include:

- Corridor Studies
- Intersection/Corridor Safety Studies
- Road Diets/Street Conversions Analyses and Design
- Traffic Calming Programs and Design
- Roadway/Street Design
- Roadway Pavement Marking and Signing Plans
- Roundabout Design & Analysis
- Work Zone Maintaining Traffic/Detour Plans
- Non-Motorized and Pedestrian Data Collection
- Traffic Data Collection
- Traffic Impact Studies
- Traffic Signal Warrant Studies
- Traffic Signal Design
- Traffic Signal Optimization Studies
- Traffic Microsimulation
- Parking Studies
- Parking Design
- K-12 Access and Circulation Analyses and Design
- Campus Circulation Design (motorized and non-motorized)
- Transportation Public Involvement Programs
- Bikeway Systems Master Plans
- Access Management Plans
- Community Transportation Master/Comprehensive Plans
- Community Site Plan and TIS Reviews

Transportation Engineering Experience

Complete Streets/Traffic Calming/Road Diets-Conversions

- Ivanrest Avenue 4 to 3 Lane Conversion Analysis, Grandville, MI (current)
- M-37/State Street Walkability/Road Diet Analysis and Conceptual Design, Newaygo, MI (current)
- Eighth Street Post-Conversion Reconstruction Design, Traverse City, MI (current)
- Burton Street Corridor/4 to 3 Lane Conversion Study, Wyoming, MI
- Cascade Township Village Complete Streets Plan, Cascade Township, MI
- I-196 B.L. Pedestrian Crossing/Conversion Analysis and Plan, South Haven, MI
- Chicago Drive 4 to 3 Lane Conversion Analyses, Grandville, MI
- Riverview Drive 4 to 3 Lane Conversion Analysis, Parchment, MI
- Laketon Avenue 4 to 3 Lane Conversion Analysis, Muskegon, MI
- Traffic Calming Program Development, Walker, MI
- Traffic Calming Program Assistance, Wyoming, MI

Intersection/Corridor Capacity (MDOT prequalified, Synchro based) and Safety Analyses

- City of Walker – numerous locations
- City of Grandville – numerous locations
- City of Cadillac– numerous locations
- City of Zeeland – numerous locations
- Muskegon County Road Commission – numerous locations
- Macatawa Area Coordinating Council (Holland area MPO) – numerous locations
- Michigan Department of Transportation - numerous locations
- West Michigan Shoreline Regional Development Commission (Muskegon area MPO) – numerous locations
- Over 100 development impact studies on state and local major roadways using Synchro modeling and micro simulation

Arterial Corridor Studies (partial list)

- Silver Lake Road Corridor Study, Fenton, MI
- M-22 Corridor Study, Elmwood Township, MI (near Traverse City)
- M-13 and Wilder Road Access Management Plans, Bay City
- South Haven I-196 BL Corridor Study, South Haven, MI
- Michigan Street Corridor Plan – Parking, Multi-Modal, and Traffic Analyses, Grand Rapids
- M-121 Corridor Access Management Plan, Ottawa County
- US-131 BR Access Management Plan, Cadillac and Cadillac area, Michigan
- M-46 Access Management Plan, Thomas Township/Saginaw County
- M-55 Corridor Management Plan, Roscommon County
- US-127 BR Access Management Plan, Mt. Pleasant, Michigan
- US-131 Access Management Plan, St. Joseph County
- US-19, CR-9, CR-17 Access Management Plans, Elkhart, Indiana
- US-131/M-42 Access Management Plan, Wexford County (Manton area)
- US-31 Corridor Management Plan, Manistee County
- M-43/M-52 Access Management Plan, Ingham County
- US-12 Access Management Plan, Washtenaw County
- M-72 Access Management Plan, 3 Counties

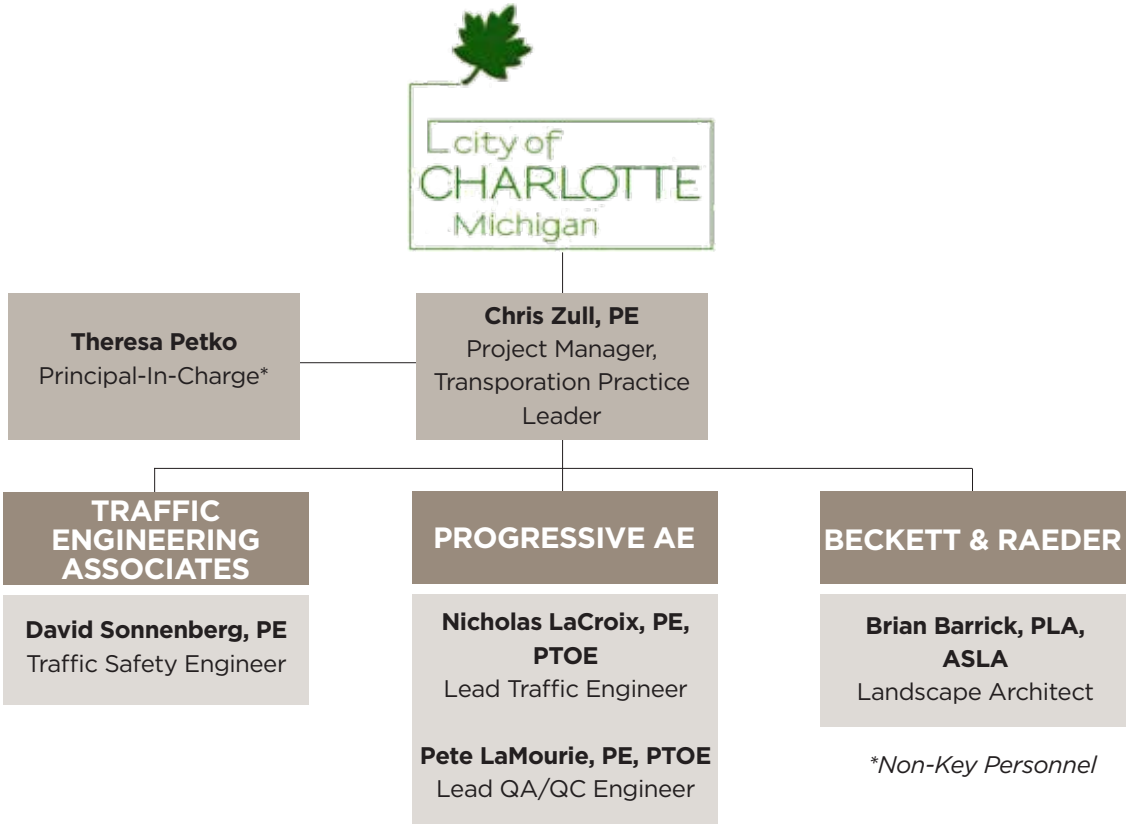
Other Areas of Transportation Engineering Expertise (partial list)

- Traffic Signal Systems Design (MDOT prequalified)
- Roundabout Feasibility Analyses and Design
- Community Transportation Master Plans
- Community Site Plan and Impact Study Reviews
- Signal Warrant Studies

Project Team

Progressive AE (PAE), Beckett & Raeder (BRI), and Traffic Engineering Associates (TEA) have teamed together for this project to offer the City a comprehensive approach to the project. Having previously teamed together on similar projects, including the City of Grandville Chicago Drive Road Diet project, Progressive AE and BRI are familiar with each other's capabilities. Together, with TEA, the project team is prequalified by MDOT for the following transportation related categories, including the five required as part of the RFP (shown in bold):

Design – Roadway (PAE, BRI)
Design – Traffic: Capacity & Geometrics Analysis (PAE, TEA)
Design – Traffic: Pavement Markings (PAE)
Design – Traffic: Signal (PAE)
Design – Traffic: Signal Operations (PAE, TEA)
Design – Traffic: Work Zone Maintenance of Traffic (PAE)
Design – Traffic: Safety Studies (TEA)
Design – Utilities: Roadway Lighting (PAE)
Design – Landscape Architecture (PAE, BRI)



<u>Key Personnel</u>

A brief description of the key personnel and their role on this project is provided below. Complete resumes are included at the end of this proposal document which include more detailed project experience for each key team member.

Chris Zull, PE will serve as the <u>project manager</u> for the project, coordinating all project efforts and facilitating meetings with the City and area stakeholders. Mr. Zull has 17 years of experience working on transportation and traffic engineering projects throughout Michigan. Having served as the Traffic Safety Manager at the City of Grand Rapids for over 15 years, he has extensive experience with similar projects. While at the City of Grand Rapids, Mr. Zull was instrumental in managing the City's traffic calming program, reviewing traffic analyses and construction plans, and implementing over 80 miles of on-street bike lanes within the City.

Nick LaCroix, PE, PTOE will serve as the lead traffic engineer for the project, coordinating all efforts involved with analyzing the existing and future conditions of the M-50 corridor. Mr. LaCroix has over 17 years of experience leading traffic engineering and road design projects that will lend itself well to this project, including serving as the lead traffic engineer for the City of Newaygo Downtown Walkability Improvements, which includes a 4-to-3 lane conversion. He has performed as the project manager and lead traffic engineer for numerous traffic analyses throughout Michigan and Indiana ranging from large freeway interchanges, corridor studies, campus transportation studies, and non-motorized/pedestrian studies. Traffic engineering expertise includes transportation planning, campus planning, traffic impact studies, corridor plans, crash analyses, maintenance of traffic plans, signal timing optimization, traffic calming, parking studies, pedestrian safety, and non-motorized facilities.

Pete LaMourie, PE, PTOE will serve as the lead QA/QC engineer reviewing all deliverables for the project. Mr. LaMourie's 30+ years of transportation and traffic engineering experience includes serving as the project manager and lead traffic engineer on numerous road diet projects, including the City of Newaygo Downtown Walkability Improvements, City of Grandville Chicago Drive Road Diet, and the City of Wyoming Burton Street Road Diet, among many others. His vast knowledge will prove an asset to the City and the project as the analyses are completed and improvement recommendations are developed.

David Sonnenberg, PE will serve as the traffic safety engineer for the project. Mr. Sonnenberg will be responsible for performing the initial safety assessment of the corridor as well as the Highway Safety Manual analysis for the future conditions. He has over 37 years of experience working as the traffic engineer for Ingham County Road Commission and in private practice. Over his career, Mr. Sonnenberg has completed numerous crash analysis and safety studies, including the safety analyses for the M-43 (Grand River Avenue) road diet in the City of Williamston, the M-89 (Allegan Street) road diet in the City of Otsego, and the Elmwood Drive road diet in Delta Township.

Brian Barrick, PLA, ASLA will serve as the lead landscape architect for developing the conceptual improvement graphics resulting from the corridor analyses. Mr. Barrick's experience assisting the City with the initial development of the downtown framework plan will ensure the recommended improvements are consistent with the City's initial goals and objectives for the M-50 corridor.

Statement of Work

PROJECT UNDERSTANDING

The City of Charlotte is pursuing a 4-lane to 3-lane road diet along M-50 (Cochran Avenue) through the downtown business district. In general, the plan calls for developing bike lanes, on-street parking, and median islands in several locations. Mid-block pedestrian crosswalks are also being considered where the median islands are being proposed south of M-79 (Lawrence Avenue). The overall goals of the project include calming traffic and creating a pedestrian friendly downtown urban environment for the citizens and visitors of the City.

As part of the project approval process, a corridor analysis to determine the before/after roadway operating conditions is required to be performed. Our project team is familiar with the Michigan Department of Transportation (MDOT) requirements for road diets having completed several similar projects in the past. Progressive AE is currently working with the City of Newaygo to perform a road diet to enhance the downtown streetscape and increase pedestrian walkability. In addition, Beckett and Raider is familiar with the City's framework plan having been involved with the development of that plan.

For proposed road diets, MDOT utilizes Form 1629 as a checklist to verify all project requirements have been met when evaluating requests for road diets along trunkline routes. Several of these items have been specifically highlighted within the request for proposals. To satisfy the City and MDOT requirements, our proposed project team and scope of work are outlined on the following pages.

Task 1 – Initial Assessment and Data Collection

This task includes assembling existing traffic data, collecting additional intersection turning movement counts, collecting pedestrian data, performing a traffic safety analysis of the corridor, and evaluating the existing and construction year operating conditions at the study area intersections.

Data Collection

As part of the proposal, Progressive AE had preliminary discussions with the City, MDOT main office, and the MDOT Lansing TSC to determine if there is any existing count data available. These discussions indicated there are no existing data available for the study area intersections. Therefore, new intersection turning movement counts will be completed at all nine (9) study area intersections. The intersections included in the study area are listed below:

Intersection	Traffic Control
M-50 (Cochran Avenue) at Shaw Street	Two-Way Stop
M-50 (Cochran Avenue) at Warren Avenue	Two-Way Stop
M-50 (Cochran Avenue) at Henry Street	Two-Way Stop
M-50 (Cochran Avenue) at Krebs Court	Two-Way Stop
M-50 (Cochran Avenue) at Seminary Street	Signal
M-50 (Cochran Avenue) at Lovett Street	Signal
M-50 (Cochran Avenue) at M-79 (Lawrence Avenue)	Signal
M-50 (Cochran Avenue) at Harris Street	Two-Way Stop
M-50 (Cochran Avenue) at Stoddard Street	Two-Way Stop

Morning (7 – 9 AM) and afternoon (4 – 6 PM) peak-hour intersection turning movement counts will be performed at the study area intersections during a typical weekday. The traffic counts will include pedestrian counts for pedestrians crossing within crosswalks at each intersection. In addition, an on-site review of the study area intersections will be performed to confirm existing lane configurations, signal timing permit data, intersection control devices, driveway locations, non-motorized facilities, speed limits, and other pertinent data needed to perform the analyses.

In addition to the pedestrian data collected within the crosswalks at the study area intersections, video cameras will be utilized to record video data near the location of the two proposed mid-block crosswalks. The video data will be reviewed by technicians to determine the existing volume of pedestrians crossing M-50 near these locations. Progressive AE will work with the City to determine the appropriate time of year, day of the week, and time of day to collect the data. It may be advantageous for this data to be collected on a Saturday in the spring or early summer time period when pedestrian activity is generally greater.

Safety Assessment

A safety assessment for the study area will be conducted along the M-50 corridor and within 250 feet of the study area intersections. The safety assessment will summarize all crashes within the study area for the most recent 3-year analysis period by total number of crashes, crash type, severity, and location. Particular attention will be given to those crashes involving a pedestrian or bicyclist. Crash rates will be developed for all study area intersections and compared to national, state, and local crash rates for similar intersections.

Existing Conditions Analysis

Using the collected traffic data, Progressive AE will develop a base existing conditions traffic model and complete capacity calculations at the study area intersections to define how well they are operating under current weekday peak-hour conditions. Synchro® software, that is based upon current Highway Capacity Manual criteria, will be used for these and subsequent capacity analyses. The results of this analysis will be utilized to compare to the proposed conditions after the road diet implementation. Results of the existing conditions capacity will be shown in tabular and graphical form and include typical corridor study illustrations depicting levels-of-service for each intersection and each individual movement.

Construction Year (2021) Conditions Analysis

Base Model

To provide a before/after comparison of the corridor, a construction year (no-build) capacity analysis will be performed to determine the base operating conditions of the corridor. This analysis will be similar to the existing conditions analysis, but with an annual background growth rate applied to the existing traffic volumes. Progressive AE will coordinate with MDOT on an applicable growth rate to be used for the study area.

Road Diet Model

After completion of the base traffic analysis, the traffic models will be updated to reflect the proposed roadway configuration shown in the framework plan developed by the City of Charlotte and BRI. The results of the capacity analysis will be shown in tabular and graphical form and compared to construction year (no build) analysis results. Mitigation techniques, if any, will also be recommended to ensure acceptable operating conditions at the study area intersections.

Adjacent Roadways

In addition to the M-50 corridor analysis, potential impacts to adjacent corridors will be reviewed should negative impacts from the road diet be discovered along M-50. This task will include determining a percentage of traffic that may divert to adjacent roadways as a result of the road diet implementation, including likely routes for the diverted traffic.

Mid-Block Crosswalks

The City is considering an option to include two mid-block crosswalks located at the proposed medians in the two blocks south of M-79. These crosswalks will be included in the overall analyses to determine what, if any, impacts these crosswalks would have on corridor operations. Recommendations for appropriate signage and pavement markings will also be provided within the report based on the pedestrian data collected and MDOT guidelines for mid-block crosswalks.

Task 2 – Future Operational Analysis

Background (2030) Analysis
The traffic model developed for the existing conditions will be utilized to perform the background traffic analyses. The annual growth rate provided by MDOT will be utilized to increase the traffic volumes to the 2030 horizon year. This set of analyses will be utilized to compare to the future conditions with the road diet in place.

Future (2030) Conditions Analysis
Capacity Analyses
Unmitigated Conditions: As with the construction year (build) conditions analysis, the traffic models will be updated to reflect the proposed roadway configuration shown in the framework plan. Future (2030) conditions capacity analyses will be completed at the study area intersections to determine if there are any deficiencies along the corridor or at any of the study area intersections.

Mitigation: A subsequent separate set of capacity analyses will be completed along the corridor and at the study area intersections to test and identify appropriate roadway system improvement measures, if any, that will allow any deficient locations to accommodate the future traffic volumes in an acceptable manner during peak-hours. These assessments will define what type of improvements may be needed along the M-50 corridor and side street approaches; additional/new turn lanes, revised/new traffic control devices, signal timing optimization, etc.

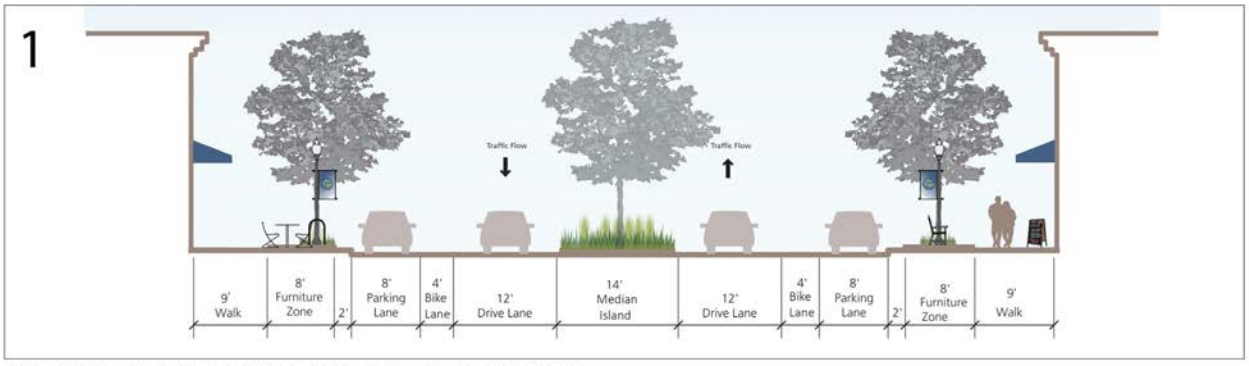
Air Quality
As Eaton County is within a CMAQ maintenance area, the proposed road diet lane configuration will need to be analyzed for air quality conformity. Progressive AE will perform the air quality analysis at key intersections utilizing the latest spreadsheet available from the Federal Highway Administration to meet MDOT and FHWA requirements.

Safety (Highway Safety Manual Analysis)
The results of the safety assessment completed as part of Task 1 and the Highway Safety Manual will be utilized to predict an overall crash reduction factor resulting from the proposed road diet.

Adjacent Roadways
As with the construction year (2021) conditions analyses, potential impacts to adjacent corridors will be reviewed should negative impacts from the road diet be discovered along M-50.

Mid-Block Crosswalks
Like with the construction year (2021) conditions analyses, the potential mid-block crosswalks located south of M-79 will be included in the future year analyses.

Improvement Concepts
BRI will complete conceptual graphics of the M-50 corridor utilizing the previously completed framework plan as the base map. Since BRI completed the original framework drawings, these graphics will be easily updated with any recommendations resulting from the traffic analyses. The graphics will include block by block figures showing the proposed cross-section, including median islands, pavement markings, bike lanes, parking spaces, and potential mid-block crossings.



COCHRAN AVENUE (M-50) AT MEDIAN

Study Report
The study report will outline the data collection efforts and analysis findings for the study area for existing, background, and future conditions along the corridor. A summary of the existing operating conditions, including the safety assessment and non-motorized considerations will be included in the report.

The future conditions analyses will be summarized to compare the anticipated operating conditions with and without the proposed road diet in place. Mitigation techniques will be outlined to address any deficiencies anticipated along the corridor and at study area intersections. The evaluation of the future conditions will include a summary of non-motorized impacts including potential mid-block pedestrian crossings along the corridor. Conceptual graphics of the proposed corridor, including any recommended mitigation, will be developed based on the outcome of the analyses performed. The analysis results and graphics could then be utilized as the basis for a pilot program to test the road diet and/or the final design as the project moves forward.

A draft report will be submitted initially to the City for review and comment. Upon receipt of comments, an electronic copy of the final report will be submitted for use and dispersal to the other entities for their review. Synchro® model data will also be provided for review, if requested.

Task 3 – Meetings

Progressive AE proposes to include four (4) meetings total with the City of Charlotte, MDOT, area stakeholders, and/or the general public throughout the project.

Kick-Off Meeting
Progressive AE and BRI will facilitate a kick-off meeting with the City, MDOT, and/or area stakeholders to review and confirm the study objectives and determine the project schedule. Meeting participants will also be able to guide the project team on specific areas or items of concern within the study area. Other previously completed or planned projects that may impact the study area will also be discussed. At the end of the meeting, all parties involved in the project will understand who will perform which tasks and when.

Progress Meeting
A progress meeting with the City, MDOT and/or area stakeholders will be held after initial analyses have been completed. The consultant team will outline the results of the data collection efforts and the preliminary analyses, noting any areas of concern. The progress meeting will help guide the consultant team in developing any alternatives should negative impacts along the corridor be discovered prior to finalizing the analyses and making specific recommendations.

Alternatives Meeting
The alternatives meeting will be similar to the previous progress meeting but present the results of the final analyses and any improvement alternatives discussed at the progress meeting. Improvement graphics will be presented to the meeting attendees for review and discussion based on the results of the analyses.

MDOT Public Involvement Meeting
As part of MDOT's review and approval of potential road diets, a public meeting will be required. MDOT will facilitate this meeting with the City providing support for the time and place of the meeting. While not specifically requested in the RFP, our team has included attendance at this meeting by a representative from both Progressive AE and BRI to help answer any questions raised by the public attendees.

Fee Proposal and Schedule

PROPOSED FEES

Progressive AE proposes to perform the scope of work described herein for an estimated not-to-exceed fee of $36,400.

Item	Amount
Task 1 - Initial Assessment & Data Collection	$12,200
Task 2 - Future Operational Analysis	$16,500
Task 3 - Meetings	$7,700
TOTAL	**$36,400**

The estimated man-hours related to the proposed project fee can be broken down as follows:

Classification	Hours
Chris Zull, PE (PAE)	40
Nick LaCroix, PE, PTOE (PAE)	72
Pete LaMourie, PE, PTOE (PAE)	16
Junior Transportation Engineer (PAE)	40
David Sonnenberg, PE (TEA)	26
Brian Barrick, (BRI)	16
Landscape Architect (BRI)	28

SCHEDULE

PAE will work with the City of Charlotte at the Kick-Off Meeting to determine an acceptable schedule for the project. In general, Progressive AE envisions the overall project to be completed within a 3 - 4 month timeframe, assuming a timely meeting schedule and review of the draft report. The general timeline for the various project tasks is shown below.

Task	Completion Timeframe
Consultant Proposals Due	November 9, 2018
Kick-Off Meeting	TBD
Data Collection Complete	3 weeks after Kick-Off Meeting
Initial Analyses & Progress Meeting	3 weeks after Data Collection Complete
Final Analysis, Improvement Graphics, & Alternatives Meeting	4 weeks after Progress Meeting
Submit Draft Report	3 weeks after Alternatives Meeting
Submit Final Report	2 weeks after comments received on draft report
MDOT Public Meeting	TBD

Relevent Experience and References

REFERENCES

Ken Krombeen, City Manager
City of Grandville
3195 Wilson Avenue
Grandville, MI 49418
616.530.4980
krombeenk@cityofgrandville.com

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Russ Henckel, Asst. Director of Engineering
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henckelr@wyomingmi.gov

Brian Boals, P.E.
Gourdie-Fraser & Associates
123 West Front Street
Traverse City, MI 49684
231.946.5874
brianb@gfa.tc

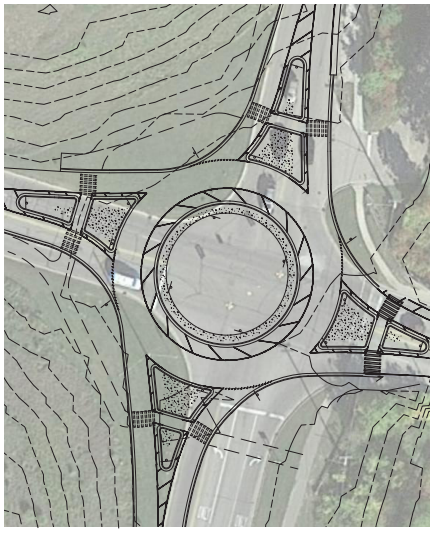
City of Newaygo
Downtown Safety and Walkability Improvements

Newaygo, MI

Completion
2018 (ongoing)

Services
Civil engineering, traffic engineering, non-motorized land planning

- Current project developing street and non-motorized improvement alternatives through and near downtown Newaygo
- Expanding on-street parking to both sides of M-37 (State Street)
- Providing safer pedestrian crossing locations by bumping out curb lines at intersections and midblock crossings and slightly revised street geometrics
- Proposing 4-to3 lane conversion, narrowed lanes, center median islands and street trees as calming measures to reduce through vehicle speeds, particularly large trucks
- Project includes development of new non-motorized pathways along river frontage to improve connectivity to downtown
- Alternatives include longer term concepts at the north end of town to help reduce vehicle speeds coming from rural highways
- Teaming with Speck & Associates to work with the City and the local economic development organization
- Will include close coordination with MDOT staff for final design parameters and eventual approval



City of Grandville DDA
Chicago Drive Conversion Street Plan

Grandville, MI

Cost
$2,000,000

Services
Civil engineering, traffic engineering, non-motorized land planning, electrical engineering

The project consists of removal of the existing primary overhead wiring from the local utility company and reducing the number of lanes from 4-lanes to 3-lanes to incorporate parking along designated areas along the street. The intent of the project is to improve the visibility of the downtown commercial properties and enhance the visibility of any commuters or pedestrians traveling through town. Another major portion of work in the project is installing new decorative ornamental street lighting that will allow for flowering basket and/or banners to be displayed to advertise for the city. The new ornamental street lighting utilizes LED technology and approximately 75 fixtures will be installed, utilizing approximately 100 watts of power to provide enhanced lighting throughout the project limits. The concrete sidewalks will be reconstructed and will utilize stamped concrete and brick pavers to improve the look of the pedestrian walkways.

Ada Village
Envision Ada Master Plan and Headley Street Re-Alignment

Ada, MI

Size
40 acres

Cost
Ada Village: $13,000,000
Headley Street: $3,390,000

Completion
2015

Services
Stakeholder engagement, master planning, civil engineering, landscape architecture, traffic engineering and analysis, non-motorized land planning

- Master planning process completed over a six-month period engaging diverse stakeholder groups, including the Township, local business owners, property owners and involved community members using community forums, as well as social media tools
- Creation of a sustainable plan which allows the natural feature of the river to be fully realized as a community asset; includes green street design standards, storm water management
- Solutions provide increased accessibility for pedestrian traffic, increased availability of residential properties within the village, and creation of community green spaces as gathering places
- Existing and future conditions modeling of roadway network
- Signal warrant anaylsis at the M-21 (Fulton Street) / Headley Street intersection
- Development of alternatives for the Headley Street re-alignment
- Traffic signal design
- Streetscape design including median islands, bulb-outs, sidewalks, ornamental lighting, street trees, and site furnishings such as bike racks and benches

B R i
Beckett&Raeder
Landscape Architecture
Planning, Engineering &
Environmental Services

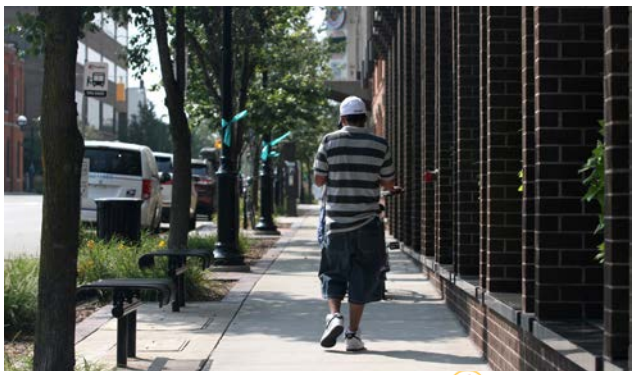
Fifth and Division Streetscape
Ann Arbor, Michigan

Beckett and Raeder, Inc. was retained by the Ann Arbor Downtown Development Authority to develop design plans for Fifth Avenue and Division Street in Downtown Ann Arbor. These two streets form a one-way pair traversing the downtown in a north south direction, and link several different neighborhoods including historic residential neighborhoods, Kerrytown, Community High School, the governmental zone, Washington and Liberty Street retail districts, the Public Library, some University of Michigan properties, and student residential areas.

A primary goal of the plan was to change the culture of the streets from a primarily vehicular route, to a pedestrian and bicycle friendly route, which still handles the traffic projections for the two streets. Lane widths were modified, on-street parking was increased, bike lanes were added, and pedestrian streetscape enhancements were proposed.

Gateways at the north and south entrances to the corridor are strengthened and special areas along the corridors are enhanced to focus on their unique contributions to the community. The core intersections where these two streets cross Liberty and Washington were enhanced to welcome visitors into these retail streets. Special pavement throughout the intersection and enhanced crosswalks, with improved lighting and pedestrian amenities were proposed. Bump-outs were proposed the length of the corridor where on-street parking had been accommodated.

The Historic Kerrytown area was proposed to have a brick street, with portions of the street raised to the top of curb elevation, with contrasting brick bike lanes. Home of the Ann Arbor Farmer's Market, and directly across from Community High School, Kerrytown was further proposed to be enhanced with public plaza spaces and an overhead Tivoli lighting trellis to tie Community High School, the Farmer's Market and Kerrytown into one community events space.



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instrumental

Christopher Zull, PE

Project Manager, Transportation Practice Leader

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616.365.2664

Chris has over 17 years of experience as a transportation engineer, spending the last 15 years working for the City of Grand Rapids, most recently as the Traffic Safety Manager. In this role, Chris managed the Lighting, Signals and Signs Department which provides off-hours and emergency services.

Chris has been responsible for the oversight of staff and consultants for the conversion of over 40 miles of road diet from 4-lanes to 3-lanes in Grand Rapids. Key project components included review and update of roadway geometrics, pavement marking layout, parking management with local business owners and invested stakeholders, bicycle lane design and connectivity, appropriate signing and signal head alignment updates, in depth public engagement and educations, crash analysis, traffic volume data collection and analysis for both before and after conditions.

Education

Master of Science in Civil Engineering, Michigan State University

Bachelor of Science in Civil Engineering, Michigan State University

City of Grand Rapids, Burton Street from Division to Breton, 2012-18

A cross-town connector in a more suburban area of Grand Rapids, 3.7 miles. The network does not allow for many alternative options for traffic, with an ADT around 18,000 vehicles. It went through several neighborhoods, as well as near schools, shopping, and parks. The road diet happened over several phases as it aligned with construction projects and as public concerns were addressed through the engagement process of public meetings. The project included the installation of a new signal, pavement marking improvements, adding bike lanes, and signing upgrades. The 85th percentile speed was reduced by approximately 9 mph. Speeding citation were reduced by 81%. Severe injury crashes were reduced by 66%.

City of Grand Rapids, Alpine Avenue from Leonard to Pannell, 2015

Alpine Avenue is a major commuting corridor that was also a truck route and there was a great deal of public concern about reducing capacity. The addition of bike lanes was met with resistance by residents, motorists, and businesses. The road diet was for 1 mile and implemented in a temporary status, then it was monitored and analyzed for vehicle performance such as Level of Service, crash analysis, and travel times. It was made a permanent decision, citing reduced speeds, improved mobility options, while maintaining reasonable levels of service.

City of Grand Rapids, Plainfield Avenue from Leonard to Fuller, 2006

This was the first road diet in Grand Rapids for approximately 6 miles. Major commuter street and commercial corridor, that goes through neighborhoods and near schools. Public engagement was key to educate motorists on a new change to the City. As a pilot project, travel times, crash analysis, modeling, and speeds were studied, as well as gaining feedback from emergency services, schools, neighborhood associations, and residents.

City of Grand Rapids, Michigan Street Corridor Plan

A regional corridor of significance that has experienced over $1 billion of development over the last 10 years. The road needed a transportation plan to accommodate its growing future. Recommendations related to traffic included a 20 year plan with a target to shift 40% of traffic to transit or other non-motorized modes, bike routing through neighborhoods rather than on Michigan Street, on-street parking management where appropriate, planning for future transit only lanes, improving the pedestrian and bike environment. The overall study included placemaking, accommodating a wide variety of land uses, quality of life, community health, public art, climate resiliency, and promote organized economic investment and job growth.

Nicholas LaCroix, PE
PTOE

Senior Transportation Engineer

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616.447.3411

Nicholas has more than 17 years of experience in transportation engineering analysis and design with focus on projects including transportation planning, traffic signal systems, traffic impact studies, corridor studies, parking studies, campus transportation, traffic calming and walkability, and non-motorized facilities.

Nick has extensive experience utilizing multiple traffic engineering modeling software packages, including Synchro/SimTraffic, VISSIM and Transmodeler.

Education
Bachelor of Science, Civil Engineering, Michigan State University

Newaygo Downtown Walkability Improvements
Lead traffic engineer for developing conceptual plans to improve walkability within downtown Newaygo. The project is located along M-37 (State Road) and includes reducing the roadway cross-section to 3-lanes, providing parking on both sides of the roadway, creating curb bump outs, and constructing a new mid-block crosswalk. The project involves coordination with MDOT to follow established guidelines for performing a road diet on a MDOT trunkline route. Tasks completed include developing conceptual graphics, existing and future operational and capacity analyses of intersections within the project limits, safety analysis along the corridor, sight distance studies, and evaluation of non-motorized impacts.

Woodward Avenue Widetrack Loop Two-Way Conversion Study, Pontiac, MI
Lead traffic engineer for a comprehensive traffic analysis to examine the conversion of the existing Widetrack Loop surrounding downtown Pontiac to two-way operation in order to improve connectivity between the CBD and adjacent neighborhoods. Tasks included the development of a detailed Transmodeler microsimulation model to project the shift in traffic patterns after the conversion to two-way operation.

University of Michigan Hayward St. Pedestrian Crossing, Ann Arbor, MI
Project Manager and lead traffic engineer for evaluating an existing mid-block crosswalk located on the UM North Campus. Tasks included collecting vehicular speed and volume data, pedestrian data, and site geometrics. A final report was developed outlining recommendations to increase pedestrian safety at the mid-block crosswalk.

University of Michigan North Campus Non-Motorized Master Plan Update
Lead traffic engineer for developing a non-motorized transportation plan for the North Campus. Tasks included a review of non-motorized elements of the North Campus, campus wide traffic and pedestrian data collection, pedestrian safety review, and developing a list of approximately 50 recommendations for immediate, mid-term, and long-term improvements.

I-96/Cascade Road Interchange Study, Grand Rapids, MI
Traffic engineer for the interchange feasibility study for the replacement of the existing bridge carrying Cascade Road over I-96. Two interchange configurations were analyzed, including a partial cloverleaf and a Diverging Diamond Interchange (DDI). The preferred concept utilizes two bridges to carry Cascade Road over I-96 providing for better geometrics at the crossovers as well as construction staging benefits as one bridge can be constructed over I-96 while the existing bridge is maintained.

Pete LaMourie, PE
PTOE

Senior Transportation Engineer

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616.365.8566

Pete has more than 30 years of experience directing all transportation engineering analyses and designs and provides consultation and assistance. His responsibilities also include roadway network planning and location studies, site access and parking planning and design, conceptual roadway geometric design, capacity analyses, analysis and design of traffic control devices and signing systems, site impact studies, and access management plans.

Education
Bachelor of Science, Civil Engineering, Michigan State University

Ivanrest Avenue 4-to-3 Lane Conversion Analysis
- Analysis of converting existing 4-lane corridor through primarily residential and school area in Grandville, Michigan
- Projected 2038 ADT's along 1.5-mile study corridor range from 12,000 to 15,000 vehicles
- Completed Synchro analyses at key intersections for existing and long term
- Results empirically confirmed viability of conversion
- Responsibilities included extensive public outreach and presentations
- Conversion planned for 2019 along with utility upgrades

M-22 Subarea Corridor Analysis/Plan
- Corridor study and plan for approximate 1 mile section of M-22 along the waterfront in Elmwood Township (Leelanau County)
- Focus was on identifying short and longer term improvements that would make this commercial/mixed use section of M-22 more pedestrian and multi-modal oriented on a highway section that carries 20,000+ vehicles
- Existing and 2026 future conditions analyses completed
- Identified numerous improvement opportunities, including short term midblock pedestrian crossings, intersection reconfiguration, and potential longer term realignment of the highway section
- Worked with many local stakeholders including the Township (client) and MDOT, including presenting at two public open houses

Burton Street Corridor Road Diet Analyses
- Corridor study to determine viability of conversion from 4 to three lanes in Wyoming, Michigan
- 1-mile study area current a mix of older commercial and residential uses
- Conversion revitalized the business climate and helped expand multi-family
- Traffic counts and near/long term Synchro analyses completed at key intersections
- Graphics developed to illustrate alternative cross sections and potential aesthetics
- Analyses confirmed that conversion to three lanes would function well in the future

South Haven – Business Loop Conversion Study
- Defined safer pedestrian crossing and sidewalk/pathway improvements for both school and resident/visitor sections of the corridor
- Developed technical analyses to confirm long-term viability of completing a 4-to-3 lane street conversion
- Worked closely with city staff and committees to develop an overall plan
- Incorporated bike lanes to add to the overall goal of developing a complete street that also improves upon the business vitality of this key corridor

David Sonnenberg, P.E.

Traffic Engineer
Traffic Engineering Associates, Inc.

EDUCATION

B.S. Civil Engineering
Michigan State University, 1978

M.S. Civil Engineering
Wayne State University, 1981

PROFESSIONAL REGISTRATIONS

Registered Professional Engineer, Michigan

PROFESSIONAL AFFILIATIONS AND PUBLICATIONS

Member, Institute of Transportation Engineers (ITE)

Past President of Michigan Section Institute of Transportation Engineers

Member of the Steering Committee for "Evaluating Traffic Impact Studies – A Recommended Practice for Michigan Communities"

Contact Information:
Dave@TEA-Inc.com
(517) 627-6028 Phone
(517) 627-6028 Fax
www.TEA-Inc.com

EXPERIENCE SUMMARY

Mr. Sonnenberg has extensive experience in the areas of traffic and transportation engineering. He has been with Traffic Engineering Associates, Inc. (TEA) for twelve (12) years. During that time he has worked on numerous traffic impact studies, school safety studies, crash analysis, speed limit studies, data collection projects and site plan reviews. He has a strong background in traffic control which includes signal warrant analysis and signal timing design. Additionally, he has experience in pedestrian and non-motorized access, road diet analysis, corridor access analysis, and various other traffic related studies.

Mr. Sonnenberg is responsible for conducting traffic engineering studies, reviewing work completed by other engineers, and coordinating traffic surveys and technicians. He has extensive experience with Synchro software.

Prior to working with TEA, Mr. Sonnenberg was with the Ingham County Road Commission (ICRC) for 26 years and was the principal Traffic Engineer for over 19 years. He was responsible for the maintenance of 67 traffic signals, including studies, evaluation, and a yearly addition of 1-2 new traffic signals. He also was responsible for the first roundabout installations in Ingham County.

Mr. Sonnenberg also worked with the City of Farmington Hills as a Senior Engineer and with the City of East Lansing as a Senior Construction Technician.

Beckett&Raeder

Brian Barrick, PLA, ASLA
Principal, Landscape Architect

Brian Barrick is a Principal with Beckett & Raeder (BRI) and provides landscape architectural support, historic site assessments, public and stakeholder participation, campus planning, site planning, placemaking, and site budgeting to the overall team. Brian has over 20 years of experience in downtown development, planning and design, contract documents and construction administration. Brian has an innate ability to capture his client's desires, anticipate their needs, and implement their visions in ways that exceed their greatest expectations through creative design solutions that capture a sense of place. His work experience includes downtown streetscapes and plazas; urban and downtown design and planning; municipal master planning; Complete Streets improvements; and wayfinding among others.

EDUCATION
Bachelor of Landscape Architecture
Minor in Natural History
Ball State University
Muncie, Indiana

REGISTRATIONS
Licensed Landscape Architect
States of Michigan, Illinois, Ohio

Michigan DEQ Certified Stormwater Operator (Management/construction Site) 2000

AFFILIATIONS
American Society of Landscape Architects

National Complete Streets Complete Streets

Michigan Recreation & Parks Association

SELECTED EXPERIENCE

Hillsdale, MI TIFA
Placemaking Plan

Grandville, MI DDA
Chicago Drive Streetscape
Downtown Wayfinding and Signage

Sault Ste. Marie, MI DDA
Ashmun and Portage Streetscape*

Walled Lake, MI DDA
Lakefront District Improvement Plan

Charlevoix, MI DDA
Charlevoix Bridge Street Streetscape*
Downtown East Park and Marina*

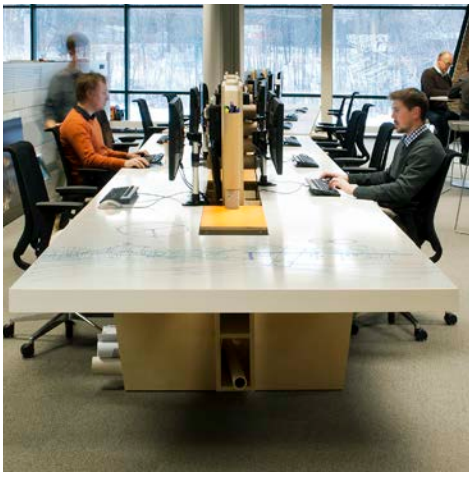
City of Ann Arbor, MI
Fifth & Division Streetscape
State Street Area Streetscape*

Joy-Southfield CDC; Detroit, MI
Joy Road Streetscape and Improvement Plan

MiSHDA Downtowns of Promise
Downtown Strategic and Improvement Plans for:
- Benton Harbor
- Flint
- Highland Park
- Hamtramak
- Joy-Southfield
- Muskegon Heights
- Saginaw

Ypsilanti, MI DDA and CVB
Ypsilanti Area Wayfinding and Signage
Depot Town TIF and Development Plan
US-12 Michigan Avenue Median and Streetscape

*Work performed outside of Beckett & Raeder



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