



CITY of NOVI CITY COUNCIL

Agenda Item 1
October 12, 2015

SUBJECT: Approval to award a professional services agreement to The Corradino Group of Michigan, Inc. for preparation of a Thoroughfare Master Plan in the amount of \$119,480, subject to final review and approval of form of agreement by City Manager's office and the City Attorney.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division
Community Development *BTC* *RA*

CITY MANAGER APPROVAL: *[Signature]*

EXPENDITURE REQUIRED	\$ 119,480
AMOUNT BUDGETED	\$ 130,000
APPROPRIATION REQUIRED	\$ 0
LINE ITEM NUMBER	101-807.00-816.000

BACKGROUND INFORMATION:

A Thoroughfare Master Plan is an important component of a City's transportation planning efforts and will assist the City's decision makers identify strategic and sustainable investments in roads and pathways, through comprehensive study of various aspects of transportation. The analysis and recommendations that result from such a plan help to identify short- and long-range transportation improvement priorities community-wide. Thoroughfare plans can identify deficiencies in the existing major road network, provide traffic forecasts, review the functional classifications of the roads, develop alternative thoroughfare improvement plans (from minor road improvements to full-scale corridor upgrades), rank future road improvement projects, and help to identify transit needs.

Although a comprehensive Thoroughfare Master Plan has not been completed for Novi within the past 15 years, a number of transportation reports and master plans will be reviewed, consolidated and updated as a part of this comprehensive approach. These reports include the I-96 Wixom Novi Transportation Study (2011), the Master Plan for Land Use (2010), Town Center Area Study (2014), Ring Road Scoping Study (2007), 2014-2020 Capital Improvement Plan, Beck Road Scoping Study, and the High-Frequency Crash Study, among various other studies and plans.

A Request for Proposals (RFP) was issued for assistance from an outside transportation consulting firm to assist the City on the development of the plan. The selected consultant will lead a process that combines a technical analysis with public and stakeholder outreach. The goal is to identify and recommend priorities over a 25-year time horizon in an illustrative, easy to read format that can be shared with City residents and other key constituents.

Two responses were received to the RFP, one from the Corradino Group, and the other from AECOM. The responses were reviewed by staff from the Department of Public

Services, Engineering and Community Development. The Corradino Group scored higher for a number of factors: demonstration of completion of thoroughfare plans of a similar scope; previous positive work with Novi representatives on the multi-jurisdictional I-96 Wixom Novi Transportation Study ; the type and level of public participation that is proposed including an application called "Community Remarks"; and a comprehensive "Multi-Modal Plan" approach which combines Public Policies, Physical Environment, Community Programs, and Quality of Life Objectives. Staff negotiated a fee with the selected consultant that is within the budgeted amount and is recommending award.

If approved, the consultant will review roadway master plans of various jurisdictions, including the City of Novi, RCOC, MDOT and SEMCOG. The consultant will then coordinate with staff on an extensive public outreach effort that will include online tools and public meetings to gather public input. The "Community Remarks" application will allow people to post their ideas, comments and concerns to the website that may pinpoint a specific geographic location. This engagement tool is promoted as being a cost-effective way to dialogue about land use, transportation issues, and other items of interest to the City as we seek input on the Thoroughfare Plan.

Working with staff, the consultant will then compile data on existing and future roadway conditions, forecast travel, classify our thoroughfares, identify needs, determine costs, and work with the city to prioritize the affordable plans. The planning efforts will get underway in November, with the project completion expected by next July.

RECOMMENDED ACTION: Approval to award a professional services agreement to The Corradino Group of Michigan, Inc. for preparation of a Thoroughfare Master Plan in the amount of \$119,480, subject to final review and approval of form of agreement by City Manager's office and the City Attorney.

	1	2	Y	N
Mayor Gatt				
Mayor Pro Tem Staudt				
Council Member Casey				
Council Member Markham				

	1	2	Y	N
Council Member Mutch				
Council Member Poupard				
Council Member Wrobel				

CONTRACT FOR THOROUGHFARE MASTER PLAN

THIS CONTRACT FOR PROFESSIONAL SERVICES ("Contract"), shall be considered as made and entered into as of the date of the last signature ("Effective Date"), and is between the City of Novi, a Michigan municipal corporation, whose address is 45175 Ten Mile, Novi, Michigan 48375, (hereinafter referred to as "Client"), and The Corradino Group of Michigan, Inc., whose address is 20027 Boardwalk Blvd., Southfield, MI 48075, (hereinafter referred to as "Contractor").

THE CLIENT AND CONSULTANT AGREE AS FOLLOWS:

Article I. Statement and Performance of Work.

For payment by the Client as provided under this Contract, Consultant shall perform the work, duties and responsibilities described on and in Schedule A (the "work"), which is attached hereto and made a part of this Contract by this reference, in a competent, accurate, efficient, timely, good, professional, thorough, complete and responsible manner, and in compliance with the terms and conditions set forth below.

Article II. Timing of Performance.

Performance of this Contract shall commence immediately upon execution by both parties, and performance of the work shall be completed according to the timing set forth as part of Schedule A. The timing for performance of any such work may be extended for additional specified periods of time, if allowed in writing by the Client in its sole discretion. Services on each phase after the first phase shall commence only after Client's authorization to proceed. Out-of-sequence services (i.e., commencement of work on a future phase, before completion of a prior phase), if requested and ultimately not accepted by Client as part of the overall project, shall be compensated as Additional Services.

Article III. Contract Price and Payment.

- A. Subject to the terms and conditions of this Contract, the Client agrees to pay Consultant in the amount, manner, and according to the timing for making such payments set forth in Schedule A (referred to in this Contract as "payments"). Such payments are in exchange for and consideration of the timely and satisfactory performance and completion of the work required under and pursuant to this Contract.
- B. The Client agrees to pay Consultant amounts due within thirty (30) days of receipt of an itemized billing/invoice from Consultant detailing all work performed and provided in connection with the billing and the hours and charges applicable to each such item of work. Itemized billing/invoices shall be submitted monthly. Such itemized billings shall be submitted and shall be paid only upon satisfactory completion of the work itemized in the billing.
- C. All costs and expenses incurred by Consultant in the course of performing the work under this Contract are deemed to be included in the hourly fees and amounts set forth in Schedule A, unless specifically identified in Schedule A as reimbursable expenses and such expenses have been approved by the Client or its designee.
- D. Consultant will obtain written approval of the Client prior to proceeding with any services or work that is not stated on Schedule A; otherwise the Client will not be billed for such extra/additional services or work.

- E. Payments shall be made upon verification of invoices received by the Client. All payments to Consultant shall be submitted by mail at Consultant's address first listed above, unless Consultant provides written notice of a change in the address to which such payments are to be sent.

Article IV: Termination.

- A. This Contract, including any extension or amendment of this Contract, may be terminated at any time, with or without cause, by either party upon thirty (30) calendar days' written notice to the other party. In such event, the effective date of such termination shall be the 30th calendar day following the date of the written notice of such termination.
- B. In the event this Contract is terminated prior to completion of the work, the Client shall not be responsible to make any further payments for work performed after the effective date of such termination, and shall pay Consultant for such work as has been completed and is eligible for payment under the terms of this Contract through the date of such termination. In all events, the Client shall only be responsible to make the payments described in the preceding sentence if, at the Client's request, Consultant continues to fully perform its duties and obligations in full compliance with the terms of this Contract through the effective date of the termination. Additionally, termination shall not relieve Consultant of its obligation to provide Client with all of the plans and product generated under this Contract through the effective date of termination. Articles V, VI, VII and VIII of this Contract shall survive completion of the work and any termination of this Contract.
- C. Prior to the effective date of any termination or prior to the completion of the work (including any extension of the timing for completion), whichever is the first to occur, Consultant shall deliver to the Client all reports, opinions, compilations, research work, studies, data, materials, artifacts, samples, documents, plans, drawings, specifications, correspondence, ledgers, permits, applications, manuals, contracts, accountings, schedules, maps, logs, invoices, billings, photographs, videotapes and other materials in its possession or control that is gathered or generated in the course of performing the work or that relates to the work in any way; provided that Consultant may retain a copy of such materials for its files. The Client shall be permitted to withhold any payments and reimbursements otherwise owing to Consultant under the terms of this Contract until all such materials are delivered to the Client in accordance with the terms and conditions of this Contract.

Article V: Independent Contractor Relationship.

- A. In the performance of this Contract, the relationship of Consultant to the Client shall be that of an independent contractor and not that of an employee or agent of Client. Consultant is and shall perform under this Contract as an independent contractor, and no liability or responsibility with respect to benefits of any kind, including without limitation, medical benefits, worker's compensation, pension rights, or other rights or liabilities arising out of or related to a contract for hire or employer/employee relationship shall arise or accrue to either party as a result of the performance of this Contract.
- B. Consultant, as an independent contractor, is not authorized to enter into or sign any agreements on behalf of the Client or to make any representations to third parties that are binding upon the Client. Although Consultant is required under this Contract to advise, make recommendations to and to a limited extent represent the Client, all plans, studies, applications, submittals, surveys, reports and any other information relating to the work must be submitted to and approved by the Client or the Client's authorized official prior to being disseminated to any third party and shall only be so disseminated if such dissemination is approved in advance by the Client or an authorized Client official.

- C. Consultant represents that it will dedicate sufficient resources and provide all necessary personnel required to perform the work described in Schedule A in accordance with the terms and conditions of this Contract. Except as may be specifically stated and agreed to in Schedule A, Consultant shall perform all of the work under this Contract and no other person or entity shall be assigned or sub-contracted to perform the work, or any part thereof, unless approved by the Client in advance.

Article VI: Liability and Insurance.

- A. Consultant agrees to indemnify and hold harmless the Client, its elected and appointed officials and employees, from and against any and all claims, demands, suits, losses and settlements, including actual and reasonable attorney fees incurred and all costs connected therewith, for any damages which may be asserted, claimed or recovered against the Client by reason of (i) personal injury, death and/or property damages to the extent arising out of or in any way connected or associated with the actions or inactions of Consultant in performing or failing to perform the work, or (ii) civil damages to the extent arising out of any dispute between Consultant and its subcontractors, affiliates, employees or other private third parties in connection with this Contract.
- B. Consultant shall provide evidence of adequate insurance coverage in the types and amounts set forth on Schedule A, which is attached hereto and incorporated herein by this reference. Such insurance shall be maintained at the specified level of coverage throughout the term of this Contract, including any extension of such term, and will cover all work, acts and omissions by and on behalf of Consultant in connection with this Contract, with the Client as named additional insureds, but with such coverage being primary and non-contributory as described in the attached Schedule A. Consultant shall give the Client immediate notice of any change in or cancellation of the coverage in place at the time this agreement is executed, shall provide a copy of any cancellation notice received from its insurer to the Client, and shall request that its insurer send such notice of cancellation to the Client. Consultant shall provide evidence of insurance coverage as set forth herein coverage at any time requested by the Client.

Article VII: Information.

It is expressly acknowledged and agreed that all reports, opinions, compilations, research work, studies, data, materials, artifacts, samples, documents, plans, drawings, specifications, correspondence, ledgers, permits, manuals, applications, contracts, accountings, schedules, maps, logs, invoices, billings, photographs, videotapes and all other materials generated by and/or coming into the possession of Consultant during the term of this Contract, and any extension thereof, that in any way relate to the performance of work by Consultant under this Contract or that are otherwise related or relevant to the work, belong exclusively to the Client and shall be promptly delivered to the Client upon the termination of this Contract or, at any time, upon the Client's request.

Article VIII: Accuracy.

Consultant promises that the information it provides in the work to be performed under this Contract will be accurate, excepting only inaccuracies resulting from incorrect information provided by the Client, other consultants, and/or other public sources. Consultant will not charge Client for necessary corrections to its work and will be responsible for any increased cost incurred by the Client as a result of any inaccuracies in the work, excepting inaccuracies resulting from incorrect information provided by the Client other consultants and/or other public sources.

Article IX: General Provisions.

- A. Entire Agreement. This instrument, together with the attached Schedules, contains the entire Contract between the Client and Consultant. No verbal agreement, conversation, or representation by or between any officer, agent, or employee of the parties hereto, either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.
- B. Compliance with Laws. This Contract and all of Consultant's work and practices shall be subject to all applicable state, federal and local laws, ordinances, rules or regulations, including without limitation, those which apply because Client is a public governmental agency or body. Consultant represents that it is in compliance with all such laws and eligible and qualified to enter into this Contract.
- C. Governing Law. This Contract shall be governed by the laws of the State of Michigan.
- D. Assignment. Consultant shall not assign this Contract or any part thereof without the written consent of the Client. This Contract shall be binding on the parties, their successors, assigns and legal representatives.
- E. Dispute Resolution/Arbitration. The parties agree that any disputes regarding a claimed violation of this agreement shall first be submitted in writing to the other party in an attempt to settle the matter before pursuing other legal actions or notices provided for in this agreement. Such written communication shall clearly state the problem or concern, allow sufficient time for a written response from the other party, and culminate in a face-to-face meeting to determine if a remedial action is possible. In no event shall this process take more than thirty (30) days, unless a specific extended period of time is agreed to by both parties in writing as being necessary. The aforementioned initial written communications between the parties also shall indicate whether the party is willing to submit the dispute to binding arbitration, non-binding mediation or other form of alternate dispute resolution, and share equally the costs for same. Upon the parties agreeing to any such method of dispute resolution and a timetable for doing so, pursuit of other legal actions shall be deferred until the process has been completed. In any binding arbitration, the arbitrator shall provide a written statement of the reasons and basis for an award or decision, a judgment of the Oakland County Circuit Court may be entered based on the arbitration award or decision, and each party shall be responsible for their own costs and attorney fees.
- F. Third Parties. It is the intention of the parties hereto that this Agreement is not made for the benefit of any private third party. It is acknowledged that Client may receive a portion of the funding for the payments under this Contract from one or more private sources, and it is understood by Consultant that it is hired by Client to work exclusively for Client and Consultant agrees that no private party or parties will be allowed to hold sway or influence, in any way, over Consultant's performance of the work.
- G. Notices. Written notices under this Contract shall be given to the parties at their addresses contained in this Contract by personal or registered mail delivery to the attention of the following persons:

Client: City Manager Peter E. Auger and City Clerk Maryanne Cornelius
Consultant: Joseph C. Corradino
- H. Changes. Any changes in the provisions of this Contract must be in writing and signed by the Client and Consultant.

- I. Waivers. No waiver of any term or condition of this Contract shall be binding and effective unless in writing and signed by all parties, with any such waiver being limited to that circumstance only and not applicable to subsequent actions or events.
- J. Jurisdiction and Venue of Contract. This Contract shall be considered for all purposes, including the establishment of jurisdiction and venue in any court action between the parties, as having been entered into and consummated in the City of Novi, Oakland County, Michigan.
- K. Conflict. In the event of any conflict or inconsistency between the above provisions of this Contract and either or both of the attached Schedules, the provisions in the above text shall govern.

IN WITNESS WHEREOF, the Client and the Consultant have executed this Contract in Oakland County, Michigan, as of the date first listed above.

WITNESS AND DATES
OF SIGNATURES:

CITY OF NOVI

Date: _____

By: Robert J. Gatt
Its: Mayor

Date: _____

By: Maryanne Cornelius
Its: Clerk

WITNESS AND DATES
OF SIGNATURES:

THE CORRADINO GROUP OF MICHIGAN
INC.

Date: _____

By: Joseph C. Corradino
Its:

THE CORRADINO GROUP OF MICHIGAN, INC.

CORRADINO

ENGINEERS • PLANNERS • PROGRAM MANAGERS • ENVIRONMENTAL SCIENTISTS

September 23, 2015

Sue Morianti, Purchasing Manager
Barbara McBeth
City of Novi
45175 Ten Mile Road
Novi, MI 48375-3024

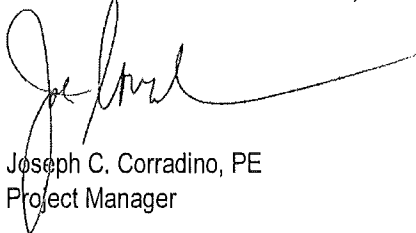
Re: City of Novi Thoroughfare Master Plan Updated Proposal

Dear Ms. Morianti and Ms. McBeth:

The Corradino Group of Michigan, Inc., transmits our updated proposal, consistent with discussions with Ms. McBeth to update our Novi Thoroughfare Master Plan RFP, as originally transmitted on June 1, 2015. The cost of the work defined in the attached scope is \$ 119,480.

Thank you for considering Corradino to assist the City of Novi on this important project..
Sincerely,

THE CORRADINO GROUP, INC.



Joseph C. Corradino, PE
Project Manager

/scr

Table of Contents

1.	Firm and Staff Background, Qualifications, and Capacity	1
1.1	Overview of Consultant	1
1.2	Organization, Staff Qualifications, and Capacity.....	14
1.3	Reactions to Past Performance	20
1.4	References	20
2.	Scope of Work	21
2.1	Understanding the Service	21
2.2	Task 1: Public Outreach/Project Management	25
2.3	Task 2: Review Plans Novi/RCOC/SEMCOG.....	28
2.4	Task 3: Compile Data on Existing and Future Conditions.....	29
2.5	Task 4: Forecast Travel.....	31
2.6	Task 5: Classify Thoroughfares	31
2.7	Task 6: Identify Multi-modal Needs	32
2.8	Task 7: Develop and Evaluate Multi-modal Alternative Strategies	32
2.9	Task 7A: Develop Performance Measures	33
2.10	Task 8: Develop "Needs" and "Affordable" Plans	34
2.11	Task 9: Prioritize Plan.....	34
2.12	Task 10: Prepare Final Documents	35
2.13	Innovations	36
3.	Schedule	37

1. Firm and Staff Background, Qualifications, and Capacity

This section of the proposal addresses the following items in the RFP:

- Overview of Consultant including clear statement of expertise in projects of this nature.
- Organization Chart, Staff Qualifications and Capacity.

1.1 Overview of Consultant

Corradino was formed in 1970 with the mission of providing a broad range of services to assist government agencies, industries, and private businesses to help address their planning and engineering needs. The firm has consistently moved projects forward to implementation so that clients can realize the benefits of their investment in planning. It has prepared and helped implement Thoroughfare Master Plans (TMP) in communities of similar size and demographics to Novi, including Ann Arbor, Rochester Hills, and Petoskey, Mich.; Doral, Coral Gables, Gainesville, and Pinecrest, Fla.; Carmel, Ind.; Washington County, Tenn.; and, others. The firm has completed successfully Major Thoroughfare Plans for many communities and is a recognized expert in travel demand modeling as you will see from the information provided herein.

The following pages reflect some of our recent and relevant experience. This section is quite extensive as it is intended to create an understanding of what we know – we have the experience in planning for roadway, bicycle-pedestrian, transit modes, in traffic operations and travel demand modeling to assist you in successfully completing the Novi Thoroughfare Master Plan.

1.1.1 Transportation Improvement Plan, I-96/I-696/I-275 in Novi and Wixom

Client: Michigan Department of Transportation, Oakland TSC

Contact: Lori Swanson, PE (810.766.6565)

Start/Completion: 2009/2011

Contract Value: \$249,000

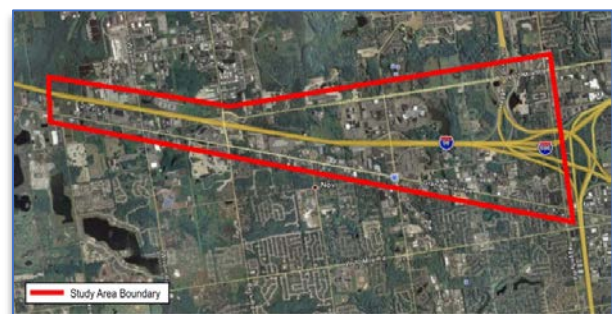
Staff: Joseph C. Corradino, PE

The concept of an I-96 Corridor Study was developed from the desire of the cities of Novi and Wixom to improve traffic conditions along the surface street

network in the area of the I-96/I-275 interchange and to plan for growth in the area. Given the interaction of Novi city streets with county thoroughfares and adjacent state trunkline routes and interchanges, the project was expanded to include a complete planning study of all state and local routes. The study developed a prioritized list of projects to improve safety and mobility and spur economic development for the region. As such, the study:

- Evaluated all interchanges, freeways, and corridors in the study area for potential operational, capacity, safety, and connectivity improvements, in a comprehensive and coordinated future transportation plan;
- Evaluated access management opportunities along all corridors in the region;
- Evaluated community land use plans, including future developments, and identified opportunities for improved coordination with future roadway plans; and,
- Evaluated transit and non-motorized transportation options.

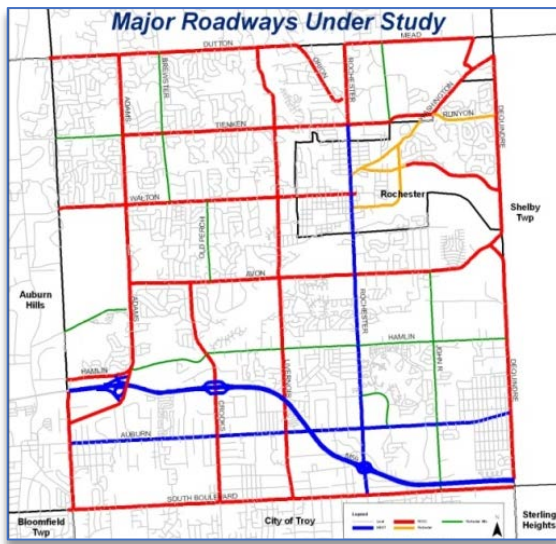
Agencies partnered to guide this project with the Michigan Department of Transportation, as the lead, were the cities of Novi and Wixom, the Road Commission for Oakland County (RCOC), and the Southeast Michigan Council of Governments (SEMCOG). Private stakeholders included numerous business entities such as Rock Financial, the Taubman Companies, Providence Hospital, and International Transmission Company (ITC). Importantly, key stakeholders included residents and businesses concerned with the viability, sustainability, and overall quality of life within this area of Southwest Oakland County.



1.1.2 Rochester Hills, Mich., Master Thoroughfare Plan Update

Client: City of Rochester Hills, Mich.
Contact: Paul Shumejko, PE (248.841.2489)
Start/Completion: 2006/2008
Contract Value: \$120,000
Staff: Joseph C. Corradino, PE

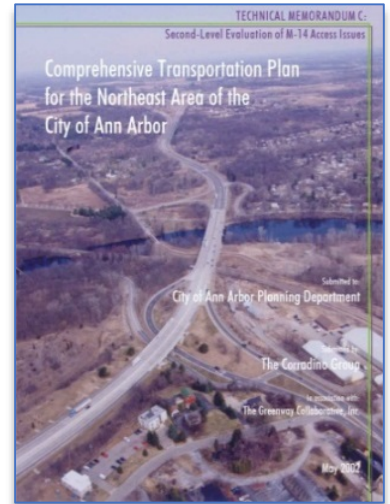
The Rochester Hills Master Thoroughfare Plan Update provided the community a process to anticipate travel needs for the next 20 years and ensure that all modes of transportation are appropriately combined into a realistic plan. Short- and long-term recommendations to roadways and non-motorized facilities that accommodate pedestrians and bicyclists created a balanced plan. Evaluation factors that measured the "quality of life" of each of the alternatives studied allowed the community's priorities to be heard and honored. The Master Thoroughfare Plan Update incorporated state-of-the-art macroscopic and microsimulation traffic models, noise and air quality modeling, as well as a detailed safety analysis. The study process included monthly stakeholder meetings and six rounds of public meetings.



1.1.3 Northeast Ann Arbor, Mich., Transportation Plan

Client: City of Ann Arbor, Mich., Planning Department
Contact: Wendy Rampson, AICP (754.994.2798)
Start/Completion: 2001/2005
Contract Value: \$406,000
Staff: Joseph C. Corradino, PE

The Northeast Ann Arbor Transportation Plan focused first on determining the preferred approach to addressing the access issues along M-14, particularly the Barton Drive/M-14 interchange. This interchange, considered "temporary" when built more than 40 years earlier, has been a subject of continuing debate. Corradino analyzed numerous alternatives at the macro (TranPlan) and micro (SYNCHRO/ CORSIM)



levels of analysis. The second area of focus was developing a multi-modal plan for Northeast Ann Arbor. This included a complete non-motorized element as well as transit and roadway components. A set of park-ride lots were defined to complement express bus services. To develop the plan, Corradino applied the WATS TransCAD model to test various multi-modal alternatives. Corradino implemented major enhancements to the transit and mode-split parts of the TransCAD model so it could be used to test transit alternatives.

1.1.4 Petoskey, Mich., Area-wide Transportation Study

Client: Northwest Michigan Council of Governments

Contact: Jan Kellogg, 231.582.6482

Start/Completion: 2006/2007

Contract Value: \$188,000

Staff: Joseph C. Corradino, PE

Corradino worked with a group of local governments (City of Petoskey, Emmet County, Bear Creek Township, and Resort Township) to develop a plan to address future congestion needs in Petoskey. The study involved extensive public involvement, development of a specialized traffic model for the tourist-oriented Petoskey area, and consideration of traffic, transit, and non-motorized improvements. For years, an expressway-type bypass around the community was debated, but eventually the community decided against it. This "local roads study" identified multi-modal and land use strategies to deal with current and future traffic congestion issues.



1.1.5 Tri-County Transportation Plan, Lansing, Mich.

Client: Tri-County Regional Planning Council

Contact person: Sue Pigg (517.393.0342)

Start/Completion: 2005/2009

Contract Value: \$200,000

Staff: Ken Kaltenbach, PE

The Tri-County Regional Planning Commission (TCRPC) retained Corradino to update the Long Range Transportation Plan and to update its travel demand model using TransCAD. The plan covers the three-county region consisting of Clinton, Eaton and Ingham

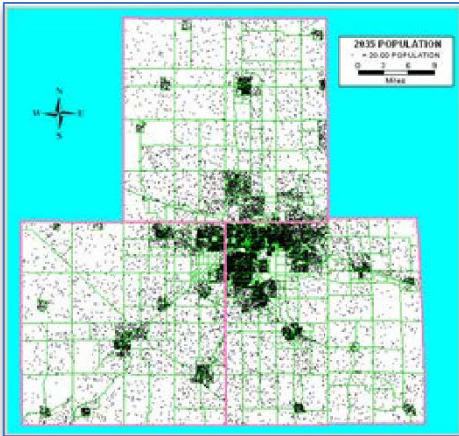
counties. Corradino developed a four-step travel demand model with the following features:

- Time-of-day: AM peak, PM peak, and off-peak.
- Multiple levels of auto-occupancy and three truck purposes.
- A highway capacity calculator to compute road segment capacity.
- A mode-choice sub-model with twelve nested Logit models, covering all three time periods and trip purposes, and calibrated to meet FTA new starts standards.
- Mode-choice and assignment sub-models that capture all types of vehicular trips including drive alone, shared rides, origin to parking, Park-and-Ride, and transit.
- An additional assignment sub-model to model AM peak period parking behavior.
- Automation of the entire modeling process using GISDK scripts.

Corradino also developed a socioeconomic model for forecasting the demographic data in five-year increments beginning with a base year of 2005 and an end year of 2040. The TCRPC staff updated the long range transportation plan for the region using outputs from the TransCAD model developed by Corradino. Corradino staff coded model networks, ran the model, developed mapping and evaluation data to identify roadway deficiencies, and tested a range of highway and transit alternatives.

1.1.6 Technical and Planning Assistance to the Tri-County MPO, Lansing, Mich.

Client: Tri-County Regional Planning Council
Contact: Sue Pigg, 517.393.0342
Start/Completion: 2015
Contract Value: \$170,000



Corradino is providing continuing assistance to the Lansing MPO to develop a revised 2040 Long Range Transportation Plan, with an emphasis on expanded performance-based planning and MAP-21 compliance. Tasks involve developing a new Congestion Management Program, Regional Freight Plan, and developing economic and urban design-oriented performance-based planning add-ons to the regional travel demand model.

1.1.7 Genesee County, Mich., Freight and Connectivity Study

Client: Genesee County Metropolitan Planning Organization
Start/Completion: 2009/2010
Contact: Derek Bradshaw, 810.766.6565
Contract Value: \$470,000
Staff: Joseph C. Corradino, PE

The goal of this study was to develop a prioritized list of achievable transportation projects that improve mobility and connectivity in Genesee County, Michigan, and spur economic development of the entire region. The study mapped land uses in the south county and identified potential economic development zones to determine opportunities for improved access. In the process, the study evaluated interchanges, freeways,



and corridors in the area for potential operational, capacity, safety, and connectivity improvements to form a comprehensive and coordinated future transportation plan. Access management opportunities along corridors of significance in the study area were also defined.

This work built on Corradino's intermodal plan adopted as part of the blueprint for economic revitalization in this five-county region. The result was an integrated plan of freeway and arterial improvements. One outcome has been the first steps to implement the plan near the Genesys Regional Medical Center.

1.1.8 Southeast Michigan Freight & Economic Analysis

Client: SE Michigan Council of Governments (Detroit MPO)
Contact: Trevor Brydon (313.324.3336)
Start/Completion: 2011/2012
Project Cost: \$200,000
Corradino Staff: Joe Corradino, PE; Dean Munn

Corradino completed an assignment for the multicounty region centered on Detroit to define how to link freight movement to economic development. The projects focus on "target industries" to recruit. A unique Corradino model was built that is simple to use to evaluate transportation projects in which to invest to produce the most benefits – jobs, jobs, jobs!

**1.1.9 Washington County, Tenn.,
Thoroughfare Plan**

Client: Tennessee Department of Transportation
Contact: Terry Gladden (615.741.3629)
Start/Completion: 2011/2014
Contract Value: \$187,000
Staff: Jon Storey, PE, PTOE, Joe C. Corradino, PE and Ted Stone

Corradino prepared the Thoroughfare Plan for Washington County in east Tennessee. Home to the oldest town in the state, Jonesborough, the county is growing at a rate faster than Tennessee, which is growing faster than the U.S. The Thoroughfare Plan covers the rural portion of the county to complement the urban planning efforts of the Johnson City Metropolitan Transportation Planning Organization (JCMPTO). Projects were developed, prioritized, then scheduled over the 25-year planning horizon.



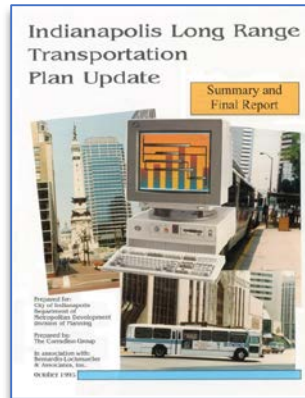
**1.1.11 Freight Forecast Reports for Genesee
County and the I-69 Thumb Region**

Client: Genesee Chamber of Commerce
Contact: Janice Karcher (810.600.1430)
Start/Completion: 2013/2014
Contract Value: \$80,000
Staff: Dean Munn

A freight forecast report was prepared by Corradino for the Genesee Regional Chamber of Commerce, to study potentially transforming two former GM manufacturing sites into truck-rail intermodal facilities. A follow up study expanded the focus to the entire Thumb Region of Michigan. Data from the IHS Global Insight Transearch dataset were used as the primary information source to analyze current (2009) and future (2030) freight flows in the region. Both projects focused on using freight assets to develop a blueprint for economic revitalization in this region.

**1.1.12 Indianapolis Long Range
Transportation Plan Update**

Client: Indianapolis Metropolitan Planning Organization
Contact: Philip Roth (317.327.5149)
Start/Completion: 1993/2009
Contract Value: \$475,000
Staff: Ken Kaltenbach, PE



Corradino developed the Long-Range Transportation Plan for the Indianapolis metropolitan region. The work included refining the existing traffic model; assuring Clean Air Act conformity; congestion management options; integrating transit planning and transit agency involvement in the Long-Range Plan; developing

financial and capital plans for transportation; creating a citizens involvement program; updating socioeconomic projections; and, beginning a process of transportation demand management. The project also equipped the Indianapolis metropolitan region with the capacity to meet transportation plan update schedules and to maintain a transportation system plan in compliance with FTA requirements. Corradino produced the first plan for the horizon year of 2020 and then updated the plan. Corradino continues to provide services to the Indianapolis MPO in the form of a transportation model add-ons that completely automate the air quality emission analysis process. Corradino is also providing other technical expertise on an ongoing basis.

1.1.13 Gainesville, Fla., Long Range Transportation Plan

Client: North Central Florida Regional Planning Council
Contact: Marlie Sanderson (352.955.2200)
Start/Completion: 2004/2005
Contract Value: \$300,000
Staff: Ken Kaltenbach, PE

Corradino performed a long-range transportation plan update for Gainesville, Fla. Included was the update of the transportation elements of the University of Florida's comprehensive plan.

Corradino engaged in an extended public involvement process to define a transportation vision, weight evaluation criteria, and explore multi-modal transportation improvements.



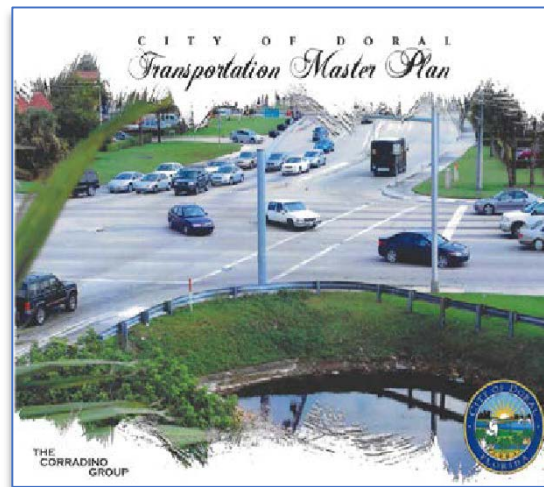
1.1.14 Doral, Fla., Transportation Master Plan and Comprehensive Plan

Client: City of Doral, Fla.
Contact: Jose Olivo, Jr., PE, (305.593.6740)
Start/Completion: 2005/2005 and 2015
Contract Value: \$50,000 and \$170,000
Staff: Joseph M. Corradino, AICP

As a new municipality, Doral, Fla., was trying to upgrade its transportation mobility infrastructure in a multi-modal manner. The City needed this plan to demonstrate to the County Commission that it had an organized approach to deal with transportation, so that they could attain funds from the County's bonding program.

The project was undertaken with an intensive public involvement process, focused on building consensus. This approach consulted decision makers from state and county agencies, public officials, citizens, and business owners. In addition, the transportation network was comprehensively inventoried, existing conditions evaluated and projected into the future. A set of projects in each of the three areas of Roadway, Transit, and Transportation Management were produced. Projects in each area were examined in detail and prioritized based on criteria developed within the community. The entire program went before the city commission, and gained approval.

The Corradino group was chosen in 2015 to update the city's Comprehensive Plan.



1.1.15 Bloomington-Monroe County, Ind., Metropolitan Transportation Plan

Client: Bloomington-Monroe County, Ind., MPO
Contact: Josh Desmond (812.349.3423)
Start/Completion: 2013/2015
Project Cost: \$175,000
Staff: Dean Munn

The BMCMPPO metropolitan transportation plan is being approached from an inclusive multi-modal transportation perspective. The accompanying model update is designed to support this approach. The analysis recognizes the strong relationship among land uses, the environment, and the transportation system. When completed in 2015, the plan will define:

- Measures that describe the ability to achieve MAP-21 transportation goals via transportation infrastructure and land use policy changes.
- Measures of the transportation effects and benefits of investing in transit services and projects that support non-motorized travel.
- Impacts that parking costs have on local travel demand and travel patterns.

1.1.16 Cutler Bay, Fla., Bicycle and Pedestrian Plan

Client: Town of Cutler Bay, Fla.
Contact: Ralph Casals, Public Works Director (305.234.4262)
Start/Completion: 2010/2011
Project Cost: \$50,000
Staff: Josh Bocks



The Town of Cutler Bay is becoming a center of economic growth in South Dade County, Fla. The challenge of establishing the unique character of the community, while preparing for the future. It is being implemented through such initiatives as the Strategic Plan, Comprehensive Plan, Transportation Master

Plan and, now, a Bicycle and Pedestrian Master Plan.

The creation of a Bicycle and Pedestrian Master Plan in Cutler Bay is a step towards achieving a very safe community where a higher percentage of non-motorized trips are taken. Utilizing the latest public involvement techniques, this progressive plan sought to solicit the opinion of the citizens, activists, staff and elected officials as it dealt with the task of protecting the essential character of the community, while providing it with a transportation network in which it could grow in a sustainable manner and allow for bicycle paths and more sidewalks. Each element was thoroughly vetted through the community, as well as local and state planning officials.

1.1.17 Palmetto Bay, Fla., Bicycle & Pedestrian Master Plan

Client: Village of Palmetto Bay
Contact: Corrice Patterson (305.259.1234)
Start/Completion: 2008/2009
Project Cost: \$50,000
Staff: Josh Bocks

The creation of a Bicycle and Pedestrian Plan in Palmetto Bay is a step towards achieving a higher percentage of non-motorized trips by identifying areas in greatest need of bicycle and pedestrian improvements and focusing improvements where they are most needed.

In defining the plan, several areas were examined:

- Preferred modes;
- Areas of connection;
- Costs; and,
- Characteristics of non-motorized systems.

The plan is being implemented.

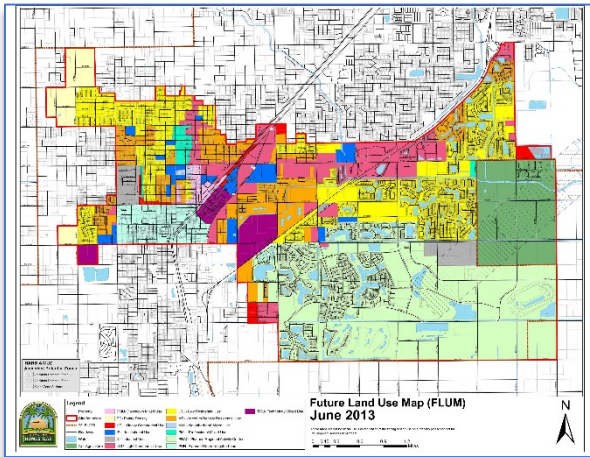


1.1.18 Homestead, Fla., Mobility Planning

Client: City of Homestead, Fla.
Contact: Charles Baldwin (305.247.1081 x.101)
Start/Completion: 1999/Ongoing
Project Cost: \$75,000
Staff: Joseph M. Corradino, AICP

The purpose of the Transportation Element of the Homestead Comprehensive Development Master Plan is to establish an integrated multi-modal transportation system providing for the circulation of motorized and non-motorized traffic in the City of Homestead, Fla. All elements of the transportation system were examined including the road system, the public transit system, bicycles, pedestrians, freight rail lines, and intermodal facilities.

Corradino continues to monitor implementation of the plan.



1.1.19 M-153/Ford Road Access Management, Michigan

Client: Michigan Department of Transportation
Contact: Jeffrey Edwards (248.483.5114)
Start/Completion: 2003/2004
Project Cost: \$79,000
Staff: Joseph C. Corradino, PE

Corradino prepared the Access Management Plan and Traffic Operations Study for the M 153 Ford Road corridor between Napier Road and Lotz Road in Wayne County, Mich.

The once-rural community has also become one of the most desirable “bedroom” communities in southeastern Michigan. Corradino, through effective communication practices with the local business community, a series of workshops with concerned community residents, and an active Steering Committee, developed an access management plan that balanced the consolidation of driveways and cross access easements while protecting the financial interests of business owners along the corridor. The plan is being implemented. It is providing better corridor traffic operations, improved safety, and economic prosperity and a better quality of life for all its residents.



1.1.20 M-24/Lapeer Road Access Management, Michigan

Client: Michigan Department of Transportation
Contact: Jeffrey Edwards (248.483.5114)
Start/Completion: 2006/2006
Project Cost: \$121,000
Staff: Joseph C. Corradino, PE

The M-24/Lapeer Road Access Management Plan provided guidance to the corridor communities and stakeholders along the 14.5 miles of heavily traveled roadway in northern Oakland County. Toward this end, a number of agencies worked to complete a comprehensive study of access/traffic-related issues and provide recommendations that will improve M-24/Lapeer Road between I-75 and Davison Lake Road.

Ultimately, the land use and zoning decisions affect the entire corridor. Conflict point diagrams, speed studies, and detailed SYNCRHO and VISSIM modeling highlighted these effects. Easy-to-understand graphics on the benefits of access management were developed to further inform the public. The study was completed in little less than a year with five public meetings and workshops throughout the corridor.

Corradino studied land use and access/traffic-related issues that affect US-24/Telegraph Road between Albain Road and Labo Roads. The project provided guidance to the Michigan Department of Transportation and local jurisdictions regarding the control of access to Telegraph Road, and recommendations for administering access management principles through the cities' and townships' ordinances and site plan review processes.



1.1.21 US-24/Telegraph Road Access Management Land Use Study, Michigan

Client: Michigan Department of Transportation
Contact: Kari Martin (517.750.0407)
Start/Completion: 2004/2005
Project Cost: \$73,000
Staff: Joseph C. Corradino, PE

1.1.22 Farragut, Tenn., Development Fee Impact Program

Client: Town of Farragut, Tenn., Town Administrator
Start/Completion: 2015
Contact: Gary Palmer, ICMA-CM, AICP, Assistant Town Administrator (865.356.2938); (Owner's PM); Clancy Mullen (512.423.0480) (Client PM)
Contract Value: \$49,000 (Corradino fee); \$65,000 (total)

Staff: Dean Munn



Corradino is part of the team that is conducting the Development Impact Fee Program for the town of Farragut, Tenn. The

approach is to develop two separate types of transportation impact fees: a uniform Town-wide fee

that would address improvements to the Town's major arterials, and approximately three corridor fees that would be assessed in specific corridor benefit zones to address the cost of minor arterial and collector roads. The needed improvements preliminarily can be grouped into three areas: South (Victor, Evans, Allen Kirby and Boyd Station Roads), Northwest (Everett and Union Roads), and Central (Boring Road). More or fewer zones may be warranted depending on the findings of the study.

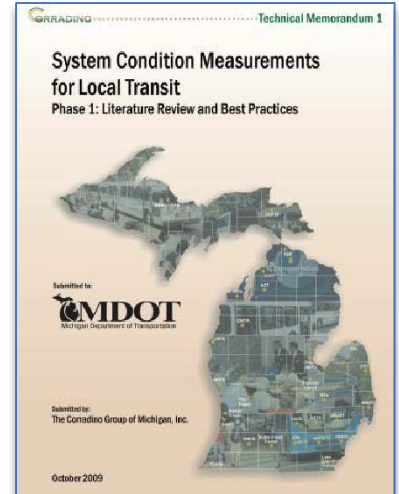
The methodology is plan-based, in that the cost of planned improvements would be divided by the number of new trips causing the need for the improvement in order to determine the cost-per-trip. This approach makes extensive use of the Knoxville Regional Travel Demand Model. Base and future year model runs will be performed to determine the existing and future volumes on the Town's major roadways. Existing and future volumes will be reviewed in light of roadway capacities to identify needed improvements. Modeling techniques will be employed to determine the portion of improvement costs attributable to existing and through traffic.

The impact fee study describes the transportation analysis, determines the extent of any revenue credits that might be warranted for outstanding debt or anticipated State/Federal funding, identifies the travel demand characteristics of different land use types, and develops recommended fees schedules for the Town-wide fee and the individual corridor benefit zones. A draft ordinance to implement the study will be provided.

1.1.23 System Condition Measurements for Local Transit Component of Michigan's Transportation System, Phases 1 and 2

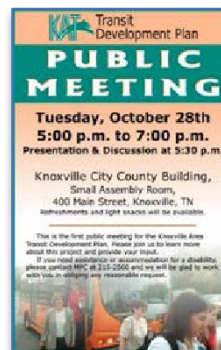
Client: Michigan Department of Transportation
Start/Completion: 2009/2010; 2011/2012
Contact: Andy Brush, Supervisor, North Unit P (517.335.2534)
Contract Value: \$80,000
Staff: Alison Townsend, AICP; Ted Stone

This project developed objectives, standards, and measurements to gauge how well Michigan's transit providers are meeting the goals identified in the 2005–2030 Michigan Transportation Plan (MITP). The four major goal areas are Stewardship, Safety and Security, System Improvement, and Efficient and Effective Operations. The first task of the project was a review of best practices. This was followed by a series of meetings with a steering committee comprised of representatives from the transit industry and MDOT and working through the process of identifying measures and standards for each of the four state goals. Survey Monkey was used to reach the transit providers throughout the state. A Web site was developed for this project (www.mitransitcondition.com).



1.1.24 KAT Transit Development Plan, Knoxville, Tenn.

Client: Knoxville-Knox County Metropolitan Planning Commission
Start/Completion: 2008/2010
Contact: Doug Burton (865.215.2500)
Contract Value: \$266,000
Staff: Larry Strange; Ted Stone



Corradino helped the Knoxville Area Transit (KAT) conduct a Transit Development Plan (TDP). Corradino had completed in 2002 the KAT 2020 Action Plan. The updated TDP was a more detailed look at specific operational issues. Knoxville is also home to the University of Tennessee. As with any system in a university town, KAT faces some unique challenges in addressing the needs of UT students, staff and faculty. Products of the TDP included a Downtown Transit Plan, Corridor Analysis, Marketing Plan and an Implementation Plan. The TDP also required a significant amount of data collection. Corradino managed a 100 percent boarding and

alighting count for weekday, Saturday and Sunday services. Public involvement played a key role in finalizing the TDP.

developed as part of the Road Safety Audit Report (RSAR). The improvements will be funded through the Ramp Queue program of Tennessee DOT.

1.1.25 Metro Regional Transit Authority Economic Impact Study, Akron, Ohio

Client: Metro Regional Transit Authority
Start/Completion: 2013/2014
Contact: Kirk Conrad, Director of Planning (now at SARTA) (330.762.7267)
Contract Value: \$15,000
Staff: Dean Munn



The Corradino Group prepared an Economic Impact Study of the operations of the Metro Regional Transit Authority (METRO) in Akron, Ohio. As part of the analysis of indirect impacts, the RIMS II Input-

Output Model was used. The overall analysis included assessment of total direct and indirect economic activity as a result of METRO expenditures, as well as jobs created and the effect on the local area, if METRO did not exist.

1.1.27 SR 115 at Cherokee Trail Interchange Study, Knoxville, Tenn.

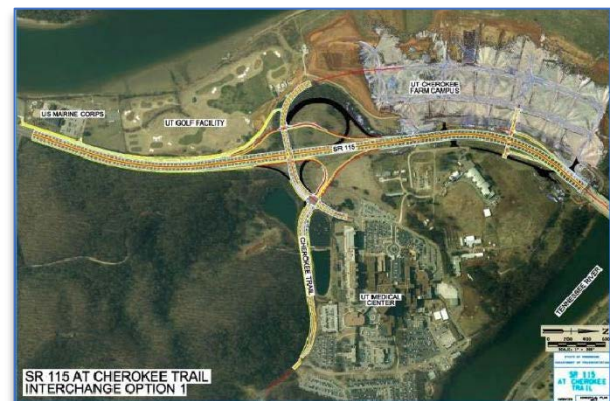
Client: Tennessee Dept. of Transportation, Strategic Transportation Investments Division
Contact: Bill Hart (615.741.7590)
Start/Completion: 2013 - Present
Contract Value: \$54,389
Staff: Jon Storey, PE, PTOE; Steve Bryan, PE, PTOE

This project studied alternatives at the interchange of SR 115 (Alcoa Highway) with Cherokee Trail. The location is complicated by the presence of the University of Tennessee Medical Center on the east side of the interchange, the UT Practice Golf Team facility on the southwest side, and the new UT Cherokee Farm Campus, which is under development on the west/northwest side of the interchange. A Marine Corp Reserves facility is located south of the interchange on the west side of SR 115. These developments constrain improvement options. Tasks included traffic counting, traffic projections, level of service analysis, interchange alternatives, cost estimates, and stakeholder meetings.

1.1.26 I-65 at Old Hickory Boulevard Ramp Queue Road Safety Audit Review, Nashville, Davidson County, Tenn.

Client: Tennessee Department of Transportation, Strategic Transportation Investments Division
Start/Completion: 2014
Contact: Shaun Armstrong (615.253.5327)
Contract Value: \$32,029
Staff: Jon Storey, PE, PTOE; Steve Bryan, PE, PTOE

The purpose of this Ramp Queue Project was to address safety concerns along the I-65 Northbound Exit Ramp to Old Hickory Boulevard related to queues reaching the interstate mainline. Items investigated include improvements along Old Hickory Boulevard from I-65 east to Cloverland Drive. Crash analysis, traffic analysis, signal optimization, conceptual design, signing and striping conceptual plans and cost estimation were



Traffic analysis included multiple interchange configurations and multiple signalized intersections along Cherokee trail Stakeholders included TDOT, UT Medical Center, and UT Facilities, who represent the Cherokee Farm Campus.

1.1.28 I-40 at Whitten Road Ramp Queue Road Safety Audit Review, Memphis, Shelby County, Tenn.

Client: Tennessee Dept. of Transportation, Strategic Transportation Investments Division

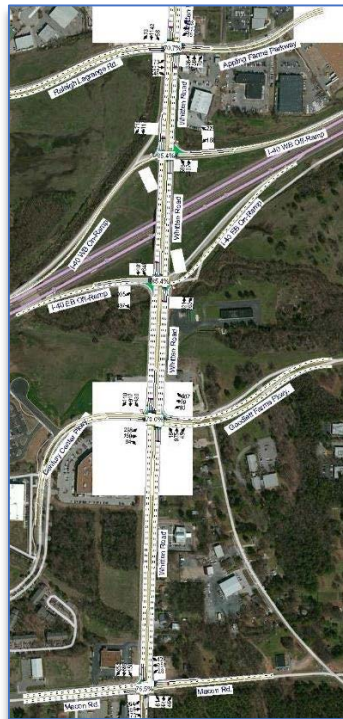
Contact: Shaun Armstrong (615.253.5327)

Start/Completion: 2014

Contract Value: \$30,600

Staff: Jon Storey, PE, PTOE; Steve Bryan, PE, PTOE

The purpose of the Ramp Queue Project was to address safety concerns along the I-40 Eastbound Exit Ramp to Whitten Road related to queues reaching the interstate mainline. Recommendations included constructing a triple left-turn lane from the exit ramp to Whitten Road northbound, constructing a double left-turn from Whitten Road southbound to I-40 eastbound, interconnecting five traffic signals along 0.85 miles of Whitten Road from Macon Road to Apping Farms Parkway to improve flow along Whitten Road, and, improved signing and striping along Whitten Road. All improvements will remain within existing right-of-way. The recommended improvements were estimated to have design and construction costs totaling approximately \$640,000. The improvements will be funded through the Ramp Queue Program.

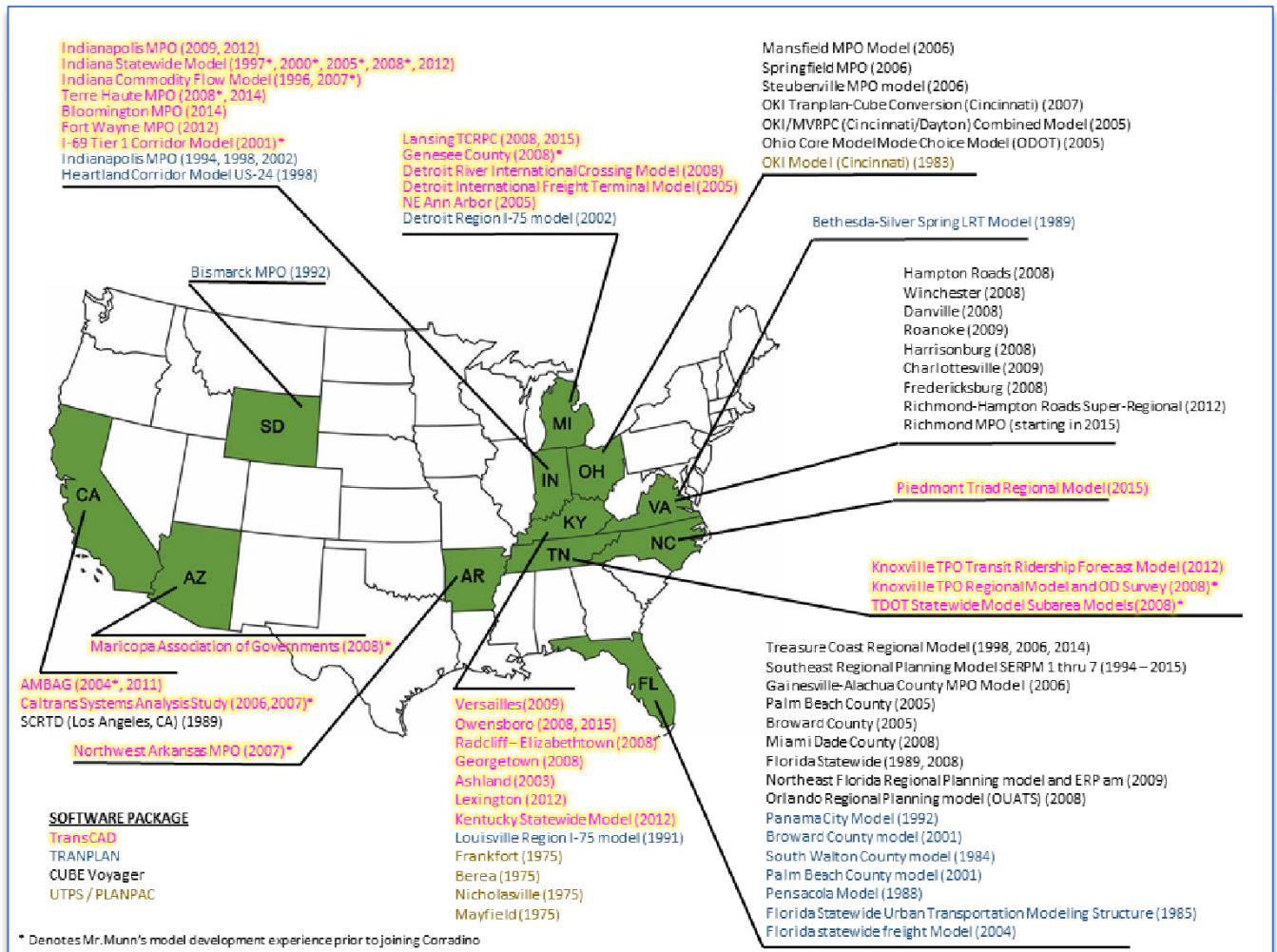


1.1.29 Travel Demand Modeling

Corradino's extensive transportation planning experience encompasses travel demand modeling including: urban travel model development, calibration and validation, multi-modal transportation planning,

alternative/scenario analysis, corridor and small-area analysis, air quality conformity analysis, traffic congestion analysis and forecasting, truck/freight modeling, and GIS/mapping, etc.. The graphic in Figure 1.1 summarizes that experience.

Figure 1.1: Corradino's Travel Demand Modeling Experience Summary



1.2 Organization, Staff Qualifications, and Capacity

1.2.1 Organization

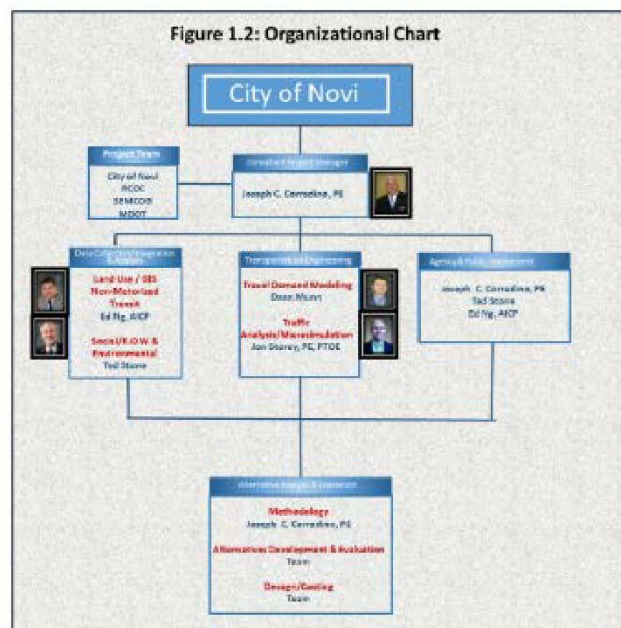
Figure 1.2: Organizational Chart **Figure 1.2** illustrates how we are organized to successfully complete the Novi Thoroughfare Master Plan. Joe Corradino will be the Consultant Project Manager. His experience includes involvement in virtually every project which the firm has conducted in Michigan – multi-modal plans, access management studies, freight connectivity

analyses, travel demand modeling, traffic analysis, public engagement, and more. That work spans from Monroe County, through the SEMCOG region, to the Upper Peninsula. He has national/international experience from Florida to Canada. The defining characteristics of Joe's work are: transparency, inclusiveness, and timely completion.

Joe Corradino will be assisted by his core team of Ted Stone, Dean Munn, Ed Ng, and Jon Storey. Resumes of this team are presented in this section and their areas of expertise as depicted in **Table 1.1**.

Table 1.1: Staff Experience vs. Areas of Project

Area \ Staff	Transportation Planning/Engineering	Travel Demand Modeling	Traffic Engineering & Operations	Pedestrian/Bicycles	Transit	Freight	Public Engagement
Joe Corradino, PE	X	X	X	X	X	X	X
Ted Stone	X			X	X		X
Dean Munn	X	X				X	X
Ed Ng, MPP, MPL	X			X	X		X
Jon Storey, PE, PTOE	X		X				X



EDUCATION

B.S.C.E, Villanova University, Villanova, Pa.,
1965
M.S.C.E. (Urban Planning and Engineering),
Purdue University, West Lafayette, Ind., 1966

PROFESSIONAL REGISTRATIONS

Professional Engineer:
Pennsylvania, No. PE-016672E, 1970;
Kentucky, No. 7730, 1970; Florida, No.
22421, 1975; Michigan, No. 6201023400,
1976; California, No. C37790, 1991; Ohio,
No. PE-57067, 1993

HONORARY AND FRATERNAL AFFILIATIONS

Chi Epsilon – Civil Engineering Honor Fraternity
Tau Beta Pi – National Honor Fraternity
Rhodes Scholar Candidate
Who's Who of America
Louisville Zoo Foundation – Former Chairman
Spalding University – Board of Trustees, Former
Chairman

PROFESSIONAL TRAINING

Program in Negotiation: Harvard –
MIT Public Disputes Program,
November 1992
Leading in the 1990s: University of
Kentucky, December 1992



Joseph C. Corradino, PE
Project Manager

1970–Present: The Corradino Group, Inc.: Managing Principal. Responsible for project control and execution of technical work in transportation/traffic engineering, engineering design, environmental management, systems planning, and urban and regional planning projects. Joe Corradino has directed numerous projects in the fields of transportation alternatives, environmental impact assessments, and system analyses including analyses for major projects in Detroit, Louisville, Miami, and Los Angeles. He was the Project Manager of significant projects for the Michigan DOT including widening I-75 in Oakland County for addition of an HOV lane; a public-private partnership to expand an intermodal (truck/rail) terminal in Detroit (ongoing); and, a new bridge between Windsor, Canada, and Detroit, Mich. He was the Program Manager for the Louisville, Ky., Airport Improvement Program. One significant facet of the project was creation of a “Renaissance Zone,” the legislation for which Joe Corradino authored. It creates a “turbo-charged” Tax Increment Financing District to pay for infrastructure at and around the airport. On a national scale, Joe Corradino’s experience includes alternatives analysis of major rapid transit systems in Miami and Los Angeles; highway work like Preliminary Engineering/EISs for I-65 in Indiana; feasibility studies for a proposed interstate highway (I-73) between Toledo, Ohio, and Jackson, Mich., and The Hoosier Heartland Highway between Lafayette and Logansport, Ind. The multi-modal plans he has helped his clients prepare include those for Gainesville, Fla., Rochester Hills, Ann Arbor, and Petoskey, Mich. His work in public involvement is complemented by affected citizens’ groups as “inclusive” and “collaborative,” resulting in enhancements to a community as infrastructure improvements are built. He is known for being able to address contentious/highly-controversial situations in common-sense terms with positive outcomes. Part of that success comes from serving in elected office as a Jefferson County, Ky., Commissioner.

1.2.2 *Staff Qualifications*

EDUCATION

BA (History), Northwestern Univ., Evanston, IL,
1972

PROFESSIONAL TRAINING

"Bikeway Planning and Facilities Workshop,"
Northwestern Univ. Traffic Institute, 04/1979
"Highway Noise Analysis Seminar," Univ. of
Louisville, 08/1987
"Air Quality CAL3QHC Workshop," APCD,
Jefferson County, KY, 12/1990
"Wetlands Law and Regulation in Kentucky,"
The Cambridge Institute, 12/1990
"ISTEA Seminars," Amer. Public Transit Assoc.,
Washington, D.C., 02-04/1992
"Integrating Transportation Management
Systems," Nashville, TN, 11/1993
"Traffic Noise Model (TNM1.0) Short Course,"
Univ. of Louisville, 10/1998
Update course (TNM2.5) FHWA/ KYTC, 2007
"EPE Analysis and Documentation Process,"
MDOT and FHWA, 10/2001
"NEPA and the Indiana Transportation Decision
Making Process," INDOT and FHWA,
09/2002, 08/2005, 03/2007, 04/2009
"Transportation Research Board 11th
International HOV Conference," Seattle,
Washington, October 27-30, 2002



Ted Stone has 41 years of experience in environmental analyses and transportation planning. This experience has led to an awareness of the National Environmental Policy Act (NEPA) of 1969 both from the standpoint of the necessary content of written documents and agencies' procedures, including state and MPO procedures. His experience includes projects for highways, light rail, people movers, busways, bus facilities, airports, community development, and urban renewal projects. Ted Stone completed assistance to the Michigan DOT as a primary author in the preparation of three EIS/Records of Decision: 1) an intermodal rail/freight terminal in Detroit; 2) a new border crossing to Canada from Detroit; and, 3) High-Occupancy Vehicle lane additions to I-75 in Oakland County. Each of these is a federal "mega" project (construction of more than \$500 million). Mr. Stone has experience in the analysis of transportation corridors, both highway and transit. He concluded the Final EIS for nine miles of I-65 in southern Indiana, a freeway bypass in Terre Haute, IN, and 18 miles of US 231 in southwest Indiana. He has been involved in transitional studies or alternatives analyses in Cincinnati, San Diego, Los Angeles and Houston. For the Univ. of Louisville and Berea College Master Plan updates, as a member of the transportation consultant analysis group, he made various recommendations regarding traffic circulation on campus and the interplay of traffic with heavy pedestrian activity.

Ted Stone participated as a planner on the Transportation Improvement Plan for I-96/I-696/I-275 in Novi and Wixom.

Edward "Ted" Stone
Vice President

EDUCATION

BS, Geography & Urban Area Development,
University of Wisconsin, Whitewater, WS,
1994

Graduate Studies, Geography, Indiana
University, Bloomington, IN, 1994-1996

PROFESSIONAL AFFILIATIONS

Gamma Theta Upsilon, International Geography
Honor Society

American Planning Association, (Indiana &
California Chapters)



Dean Munn
Vice President

Since joining Corradino in 2009, Dean Munn is responsible for managing of transportation planning projects throughout the United States. Projects range from model development (Bloomington MPO, Fort Wayne MPO, Indianapolis MPO, Knoxville MPO, INDOT Statewide model), major corridor studies (Genesee County Mich., Terre Haute Indiana rail relocation study, Downtown Frankfort Kentucky study, Knoxville Transit Alternatives), to statewide transportation planning (Indiana Freight Plan 2014, Indiana Major Highway Management Plan 2014, INDOT major corridor investment benefit analysis system), etc.

He has served as Project Manager for:

- SEMCOG Freight Economics Study – Conducted analysis of current and forecasted freight movement in and through the greater Detroit economic region and developed an economic impact tool based on the MDOT version of the REMI model.
- Genesee County Freight and Connectivity Study, Genesee County, Mich. – Task Leader of modeling and economic analysis activities. The project is analyzing the feasibility of various new freeway connections.
- Indiana Statewide Model Update – A complete update of the ISTDM model components using combined household survey data from NHTS, Central Indiana, and Chicago/Northwest Indiana. Updated components include trip purposes, production rates, attraction rates, stratification curves, friction factors, mode choice calibration, external auto trip patterns, and auto occupancy statistics.
- Indiana Major Corridor Benefit Analysis System (MCIBAS) to a new methodology and software platform. Also, conducted a full economic impact analysis of the Major Moves program and provided benefit cost analysis information for the TIGER 3 grant applications.
- Terre Haute Rail Relocation Study – Conducted travel demand model updates to accommodate rail crossing delays and used the travel model to evaluate various rail relocation/rail grade separation concepts. Model results were used to develop transportation system performance measures and as inputs to a full highway-user benefit cost analysis.

EDUCATION

Master of Public Policy, Univ. of Southern California, Los Angeles, CA, 2012
 Master of Planning- (Concentration in Economic Development), Univ. of Southern California, Los Angeles, CA 2012
 BA (Planning & Public Policy/Minor, Econ.), Rutgers Univ., New Brunswick, NJ, 2008 (High Honors)

GRADUATE CERTIFICATES

Public Management (USC), 2012
 Homeland Security and Public Policy (USC), 2012
 Real Estate Development, Rutgers Univ., NJ, 2011
 Housing and Community Development, Rutgers Univ., NJ, 2008

PROFESSIONAL REGISTRATIONS

American Planning Association (APA), Gold Coast Section
 Education Officer (Current)
 Young Planners Group
 Liaison (Current)

HONORS AND AWARDS

Editor-in-Chief, Plan On! Trojans Urban Planning and Policy Blog (04/10 – 05/11)
 Professional Development Chair, SPPD Asian Pacific Islander Caucus (04/10 – 05/11)
 President, Rutgers College Alumni Class of 2008 (05/08 – 05/13)
 Chair, University Affairs, Rutgers University Student Assembly (04/07 – 04/08)
 Outstanding Graduate Student Leader Award (04/12)
 SPPD Academic Capstone Achievement Award (05/11)
 Robert Biller Award for Best Performance in the MPP Practicum (05/11)
 LGBT Service Award, USC (04/11)
 Departmental High Honors, Edward J. Bloustein School of Planning and Public Policy, Rutgers; Dean's List (2006–2008)



Edward Ng, MPP, MPL
Urban Planner

Ed provides support in economic development, land use and transportation planning, including demographic analysis, analysis and updates of comprehensive plans, grant writing, land use code revisions, geospatial planning analyses, the creation of GIS maps, public outreach, and analysis of traffic facilities and operational data. His experience includes:

- 2014–Present: Village of Key Biscayne Safe Routes to School Study. Evaluates Safe Routes to School for Key Biscayne K-8 Center in the Village of Key Biscayne. Report will analyze pedestrian, bicycling, and safety to this school, conduct outreach, and provide recommended routes and facility improvements. Funding applications will be prepared for these projects on behalf of the Village.
- 2014–Present: Memphis MPO Public Outreach Support. Provides web-based GIS support to Memphis MPO Livability 2040 Regional Transportation Plan by implementing Public Participatory GIS (PPGIS) outreach models to improve public participation and provide for geospatially located feedback mechanisms. Presents to the public on Plan items during public workshops.
- 2014–Present: North Miami, Fla. Project involves the redesign of the pedestrian and other urban design elements of downtown North Miami area as part of redevelopment efforts. Provides mapped graphical exhibits for Downtown North Miami projects as needed for public presentation.
- 2013–Present: City of Doral Transit Mobility Plan, Doral, Fla. This study is evaluating current transportation in Doral to assist the city in improving mobility, and will include an assessment of existing projects and future needs, development of projects, and an implementation plan. Work involves developing current and future project needs to improve multi-modal transportation. Work also includes the utilization of ArcMap and ArcCatalog to conduct geospatial data analysis of existing and needed infrastructure improvements.

EDUCATION

BS (Civil Engineering), Univ. of Tennessee,
1997

MS (Civil Engineering), Univ. of Tennessee,
2003

PROFESSIONAL REGISTRATIONS

Professional Engineer: Tennessee, No. 107389,
2002; Arkansas, No. 12565, 2006; Georgia,
No. PE034835, 2010; Kentucky, No. 27237,
2010

Professional Traffic Operations Engineer
(PTOE), 2012

TDEC EPSC Level 1, No. 124038, 2013

PROFESSIONAL AFFILIATIONS

Institute of Transportation Engineers,
Tennessee Section since 2002

American Society of Highway Engineers, Middle
Tennessee Section since 2005

TECHNICAL EXPERTISE

- NEPA Documentation;
- Highway Capacity Analysis;
- Signal Design;
- Safety Studies;
- Transportation Modeling;
- Transportation Planning;
- Traffic Studies;
- Highway Design; and,
- Highway Drainage



Jon Storey, PE, PTOE
Transportation Engineer

Jon's experience includes transportation planning, traffic engineering, and geometric design.

He has served as Project Manager for numerous transportation planning projects, interchange access requests, roadway safety audits, and traffic engineering studies. He has been involved in projects in Tennessee, Kentucky, Michigan, Arkansas, Ohio, Georgia, Virginia, Alabama, South and North Carolina. Project experience includes:

- Transportation Infrastructure Cost Study Update, Town of Nolensville, TN. Project Manager. The Nolensville Transportation Infrastructure Cost Study assesses the long-term transportation needs of the town of Nolensville. Existing deficiencies are listed in the report along with long-term roadway improvement needs.
- Washington County Thoroughfare Plan, Washington County, TN. Project Manager. The Thoroughfare Plan covers the rural portion of the county to complement the urban planning efforts of the Johnson City Metropolitan Transportation Planning Organization (JCMTPO).
- I-65 NB at SR 253 (Concord Road) Ramp Queue Road Safety Audit Review, Williamson County, and Brentwood, TN. Project Manager. The purpose of this Ramp Queue Project is to address safety concerns along the I-65 Northbound Exit Ramp to SR 253 related to queues reaching the interstate mainline.
- SR 34 Coordination, Jefferson City, TN. Project Manager. A Transportation Planning Report (TPR) for Corridor Study was prepared by the TDOT at the request of the Lakeway Area Metropolitan Transportation Planning Organization (LAMTPO) and Jefferson City, Tennessee.
- SR 115 at Cherokee Trail Interchange Study, Knoxville, TN. Project Manager. This project studied interchange improvement alternatives at the interchange of SR 115 (Alcoa Highway) with Cherokee Trail.

1.2.3 Capacity

As illustrated below, the key staff assigned to the Novi TMP have sufficient capacity to complete the project in a timely manner.

Employee	Availability for Novi TMP
Joseph C. Corradino, PE	60%
Ted Stone	40%
Dean Munn	30%
Ed Ng, MP, MPL	25%
Jonathan Storey, PE, PTOE	30%

1.3 Reactions to Past Performance

Our clients realize that *“While others talk, Corradino acts. It creates value.”* Evidence of that is provided next.

“I was serving as the Michigan Department of Transportation’s (MDOT’s) Metro Region Engineer during the time Corradino worked on three major Environmental Impact Statements for MDOT: the 1-75 Widening project in Oakland County, the Detroit Intermodal Freight Terminal (DIFT) project, and the Detroit River International Crossing (DRIC) project.....Each project had estimated costs between \$500 million and \$2 billion. When working on these complex projects and many other smaller, yet nonetheless important projects, Corradino always displayed a passion for getting to an appropriate solution.....I enthusiastically recommend The Corradino Group ...”

—Greg Johnson, MDOT Chief Operations Officer

“I want to say that I thought this was an excellent, excellent job, and I commend you, Jeff, and all the people that were involved ...this is an excellent document...”

“...I think this will be very, very helpful in achieving that balance...an excellent job...through the balancing things out through chapter by chapter... impressed by how little serious discontent there was...vast majority...Really good document... With regard to the school...I think your recommendations there are excellent... With regard to economic development,

again I think you did a wonderful job on balancing out the different issues that are here...”

—Transcript of Commissioner Cooney’s Public Comments, Kalamazoo Comprehensive Plan

“Yes, because of their sincere and transparent approach to involving a variety of points of view...This approach, couple with a commitment to creative problem solving, comes from the top, and continues throughout the organization.”

—Ann Arbor Planning Manager Wendy Rampson, when asked, “Why would you hire Corradino again?”

1.4 References

Michigan Department of Transportation
Gregory C. Johnson, Chief Operations Officer
525 W. Ottawa, Lansing, MI 48075
Tel.: 517.373.4656

Genesee County MPO
Derek Bradshaw, Principal Planner
1101 Beach Street, Room 223, Flint, MI 48502
Tel.: 810.766.6565

Southeast Michigan Council of Governments
Trevor Brydon, Plan & Policy Development
1001 Woodward Ave., #1400, Detroit, MI 48226-1904
Tel.: 313.324.3336

Indianapolis Metropolitan Planning Organization
Andrew Swenson, Principal Planner
1841 City-County Bldg., 200 E. Washington St., Indianapolis, IN 46204
Tel.: 317.327.5132

Memphis Shelby County Office of Sustainability
Paul A. Young, Shelby Co. Mayor’s Dir. of Legislative and Community Affairs
160 N. Main Street, 11th Floor, Memphis, TN 38103
Tel: 901.222.2000

2. Scope of Work

2.1 Understanding the Service

We at Corradino understand that the purpose of a truly multi-modal thoroughfare master plan is to establish physical and cultural environments that support and encourage safe, comfortable and convenient travel by a variety of modes.

We also understand that a broad constituency must be engaged in the planning process including elected and agency officials, neighborhood and business leaders and, most important, the general public. The final plan must give form to their vision and provide a consensus on how to move the plan forward to fruition.

The overarching goal is to protect and enhance the quality of life in the Novi-centered area. The following guiding principles will help achieve that goal:

- Provide an efficient, safe, and connected transportation system that is coordinated with existing and projected needs and takes into consideration future growth;
- Provide a transportation system that is economical and responsive to land use and non-motorized principles; and,
- Promote interconnectivity between development plans and the existing and future roadway networks.

In creating the plan, an emphasis will be placed on improved connectivity to lessen the traffic burden on collector and arterial roadways. Expanding the travel and bicycle systems will also assist in reducing vehicular traffic. Likewise, ensuring transit has an appropriate role, particularly serving the elderly, is essential to building a truly multi-modal system.

Developing such a plan requires transparency during and after the planning process is concluded when implementation begins. This means the community, and its leaders/stakeholders, must be engaged. Communication techniques that are usually employed include:

- Stakeholder interviews;
- Public forums;

- Project Web site;
- Media outreach;
- Social media outreach;
- Project Team meetings; and,
- Planning Commission and City Council meetings.

Long-range planning is driven by a number of factors: local growth and land use changes; federal emphasis on performance-based planning; the Michigan Department of Transportation (MDOT) need to maintain its Trunkline system; the Road Commission of Oakland County (RCOC) need to manage county roads; available funding; and, the planning process of the Southeast Michigan Council of Governments (SEMCOG), which integrates these considerations with the needs of its members, including the City of Novi.

Developing a Thoroughfare Master Plan (TMP) requires tools and a process that may be familiar to planners, especially for any single transportation mode, but the integration of priorities among modes is less clearly established. In this proposal we will explain our approach to integrating tools into an evaluation process that results in a forward-thinking multi-modal plan.

Foundation of Multi-modal Plan



2.1.1 Performance-based Planning

At the federal level, MAP-21: Moving Ahead for Progress in the 21st Century is the operative comprehensive transportation funding authorization. It supersedes SAFETEA-LU. It emphasizes performance-based planning and requires that regional plans, such as SEMCOG’s Regional Transportation Plan (RTP), integrate national and statewide MAP-21 planning goals and livability principles. Novi’s TMP is the City’s unique input to the RTP, so it is important to understand this planning platform and the way it points to evaluation metrics that can be used to develop a truly multi-modal plan.

Performance-based planning can be applied at each stage of the planning process. For example, during **Modeling and Forecasting**, involving land use and traffic, a variety of performance measures can be generated (Figure 2.1). In using SEMCOG’s model to mix and match projects, we will determine the performance on the Novi community of alternative scenarios. An alternative’s performance then provides objective information to be used during the **Planning** and **Decision Making** stages. Quantification of decision-making categories of information allows for efficient communication of results to the public and stakeholders. At the **Project Delivery** stage, performance-based planning improves delivery and monitoring of projects.

Figure 2.1: Performance measures are used at each stage of the process



Performance considerations include:

- Travel Demand
 - Travel efficiency;
 - System conditions;
 - Safety;
 - Environmental concerns; and,
 - System investment and economics.

An important part of the process will be to hold an initial **performance measures workshop** with the Project Team to collaboratively define measures relevant to Novi. The intent is to describe the “user experience” on the transportation system, and thus the “user benefits” of doing any given project. These measures will be devised to include transit and non-motorized modes. Figure 2.2 provides some examples of specific quantifiable measures that can be offered for consideration.

Figure 2.2: Potential Specific Measures by Category and Travel Mode

	Travel Demand	Travel Efficiency	Facility Conditions	Safety	Environment	Economic
Auto	<ul style="list-style-type: none"> • Traffic volume • Vehicle miles traveled • Vehicle hours traveled 	<ul style="list-style-type: none"> • Congestion delay by vehicle hours • Peak period speeds • Average speeds • Specific road segments by LOS • Lane miles by LOS 	<ul style="list-style-type: none"> • Pavement conditions • Bridge conditions 	<ul style="list-style-type: none"> • Accident prediction by links • Accident summary for region (PDO, Injury, Fatal, Total) 	<ul style="list-style-type: none"> • Air emissions 	<ul style="list-style-type: none"> • User benefit \$ • Benefit-cost ratio • NPV of project • GDP impact • Personal income • Jobs
Transit	<ul style="list-style-type: none"> • Net change in ridership • Net change in transit share 	<ul style="list-style-type: none"> • Transit accessibility to employment • Transit headways • Transit vehicles over capacity • Households within walking distance 	<ul style="list-style-type: none"> • Stop and station amenities • Park-and-ride conditions 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Effects on auto emissions via transit mode shifts 	<ul style="list-style-type: none"> • User benefit \$
Bike and Pedestrian	<ul style="list-style-type: none"> • Net change in non-motorized trips • Net change in overall mode share 	<ul style="list-style-type: none"> • Accessibility to amenities via non-motorized modes • Missing links 	<ul style="list-style-type: none"> • Sidewalk and dedicated path pavement conditions • Bike parking 	<ul style="list-style-type: none"> • Number of bike and pedestrian accidents 	<ul style="list-style-type: none"> • Effects on auto emissions via non-motorized mode shifts 	<ul style="list-style-type: none"> • User benefit \$

2.1.2 Roadway Planning

Funding is a critical factor at all levels of government, particularly because of the lingering effects of the Great Recession. **Figure 2.3** and **Table 2.1** show current long-range road projects in Novi in SEMCOG's RTP. MDOT's rehabilitation of I-96 is the most expensive project, while projects that add capacity (**Figure 2.3**) are the next most-costly and, consequently, are scheduled in the out years of the RTP. The recent statewide referendum has highlighted the cost of allowing roads to deteriorate, and the RTP reflects this, with rehabilitation projects on Novi, 9 Mile, Beck and Meadowbrook Roads. A challenge for Novi is to make the most out of the dollars available.

Figure 2.3: SEMCOG Long-range Novi

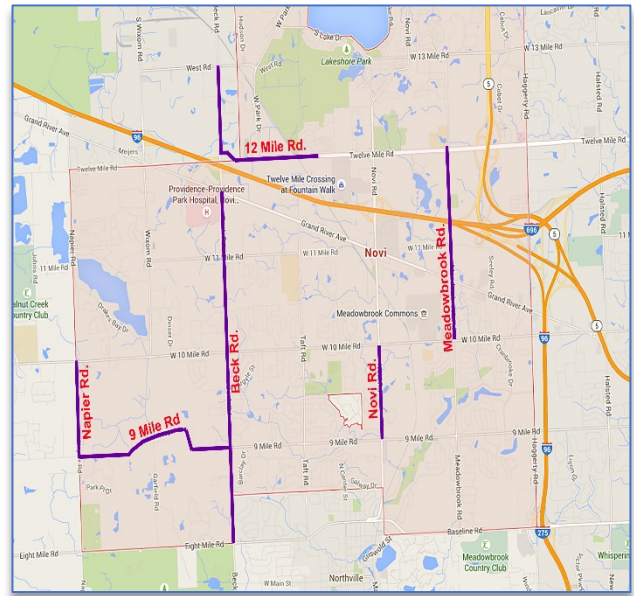


Table 2.1: SEMCOG Regional Transportation Plan, Long-range Novi Projects

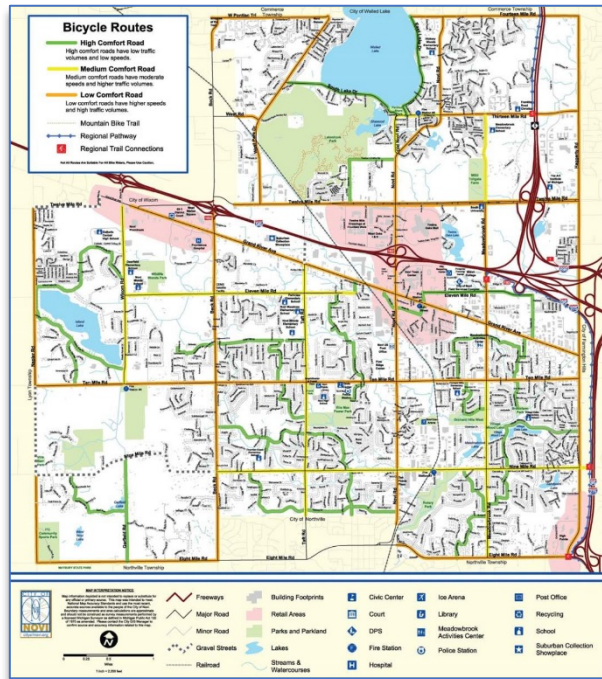
Project Name	Limits	Work	Jurisdiction	Year	Cost (in 1,000s)
Grand River Avenue at Haggerty Road	Grand River Avenue at Haggerty Road	Add SB RT lane, upgrade signal to box span, signal back plates, and lights	Novi	2014	\$ 237
Grand River Avenue	at Beck	Extend dedicated RT lane from WB Gr River to NB Beck 260 ft.	Novi	2014	\$ 115
I-96	North of 5 Mile to I-696 & I-96 interchange	Rehabilitate roadway	MDOT	2014 2016	\$ 52,025
I-275	15 structures on I-275, I-96, I-696 and M-5 (CON)	Rehabilitate bridge	MDOT	2015	\$ 275
Novi Road	12 Mile to 13 Mile Rd	Rehabilitate roadway	Novi	2016	\$ 788
9 Mile Road	Novi to Meadowbrook	Rehabilitate roadway	Novi	2016	\$ 420
Beck Road	8 Mile to 9 Mile	Rehabilitate roadway	Novi	2017	\$ 446
Meadowbrook Rd	I-96 to 12 Mile	Rehabilitate roadway	Novi	2017	\$ 370
Napier Rd	9 Mile Rd to 10 Mile Rd	Pave gravel roadway	RCOC	2017 2018	\$ 3,750
12 Mile Road	from East of Beck to West of Dixon	Widen from 2 lanes to 4 lane boulevard	RCOC	2018 2031-2035	\$ 25,288
Beck Road	from 8 Mile to 10 Mile	Widen from 2 to 5 lanes	Novi	2021-2025	\$ 9,450
9 Mile Road	from Napier to Beck	Pave gravel roadway	Novi	2021-2025	\$ 8,100
Novi Road	from 9 Mile to 10 Mile	Widen from 2 to 5 lanes	RCOC	2026-2030	\$ 25,347
14 Mile Road	at Haggerty	Construct roundabout	RCOC	2026-2030 2031-2035	\$ 11,300
Meadowbrook Rd	10 Mile Rd to 12 Mile Rd	Widen from 3 to 5 lanes	Novi	2031-2035	\$ 12,000
Beck Road	from 10 Mile to Grand River	Widen from 2 to 5 lanes	Novi	2036-2040	\$ 11,340

Source: SEMCOG Regional Transportation Plan

Within Novi, the attention to rehabilitation is also evident in its *Capital Improvement Program, 2014-2020 Roads Project Summary*. Of the 29 projects listed there, almost all will rehabilitate existing roads. Novi uses the Pavement Surface Evaluation and Rating System (PASER), which is a scientific approach to monitoring pavement conditions designed to minimize life-cycle costs.

2.1.3 Non-motorized Planning

Since 2006, Novi has had a sophisticated process for ranking and advancing non-motorized projects. An annual update process was established because “pathway, sidewalk, destination, accident and traffic volume data continue to change.”¹ That annual prioritization process yields more projects than can be built in one year. In the 2014-2015 Update, three sidewalk segments (totaling 5,600 feet) are included for construction in the Capital Improvement Plan (CIP) budget for next year. Eleven other segments are expected to be constructed by 2020. The Novi TMP will examine the level of funding for the non-motorized program relative to the other modal needs.

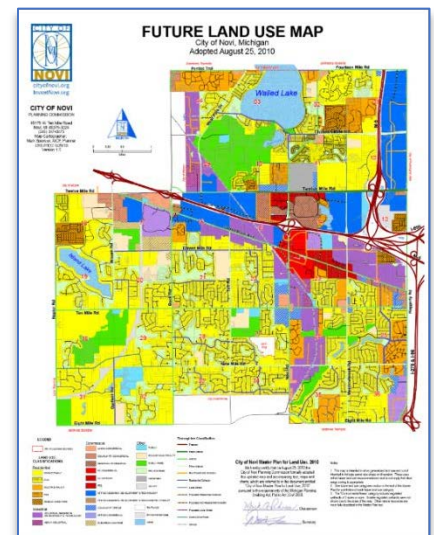


2.1.4 Transit Planning

Novi now provides on weekdays and Saturdays subsidized transportation to seniors (55+) and the disabled. A question that the Novi TMP will address is whether service and funding should change. The *Community Assessment Survey for Older Adults*, completed in Novi in 2012, will help guide this review. One finding of that survey was that the rate of use of senior transportation in Novi was much less than other communities in the U.S. As is true with other facets of MDOT budgeting, funding to local transit systems has declined in recent years. MDOT currently anticipates it will pay only 16 percent of FY 15 transit costs.² Future funding will be a function of MDOT’s overall budget process.

2.1.5 The Future

Novi’s Future Land Use Map, adopted August 25, 2010, displays a thoughtful process of balancing residential growth with commercial and industrial uses taking into account wetlands and other natural areas. Importantly, the Map includes the functional class of the City roads, reflecting an appreciation of the transportation/land use connection.



Our work will provide a fresh perspective on issues that have been examined previously. For example, based on the experience with the single-point interchange on I-96 at Beck Road, the merit of a similar design at Novi Road will be determined.

Experience has shown that, as dire as the outlook for transportation funding may be, there must always be an action plan at hand. Governor Snyder and key legislators have already indicated that, despite the failure of the recent referendum on Proposal 1, efforts

¹ Annual Non-Motorized Prioritization: 2014-2015 Update

² Sault Ste. Marie Tribe of Chippewa Indians, *Final Tribal Transit Report*, May 2015.

will be made to fund transportation. We will work with Novi to develop a staged plan that understands fiscal constraints, but keeps an eye to a future and improved transportation funding.

2.1.6 Issues

When the single-point interchange was built at I-96/Beck Road, a new MDOT carpool lot was constructed. We did the carpool lot study in the MDOT Metro Region and found that, in 2010, only ten cars were parking each day. As recent as May 2015, only 13 of 170 parking spaces are being used. This begs the questions: *Is there any better use that can be made of excess right-of-way in this and the other quadrants of the interchange? Could any of that land be sold as excess property and be put back on the tax rolls?*

Enhancing freight movement has drawn increasing attention in the last decade, with freight rail seen as an efficient alternative to trucks on the road. Rail safety has been an issue for many years. Together these trends support making at-grade intersections of roads and railroad tracks grade separated. This usually means changing the road, not the railroad. This affects access to properties along the road, but can be effective in moving both vehicular and rail traffic. A CSX rail line (Figure 2.4) passes north-south through Novi with at-grade crossings at 9 Mile, 10 Mile, and 12 Mile Roads.

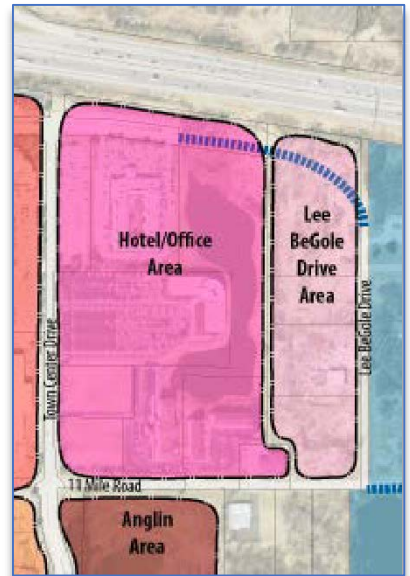
Figure 2.4: Railroad through Novi



With the closure of auto plant in Flint and the Wixom Ford Plant, rail traffic on the line has diminished. No rail spurs are now active in Novi. The TMP will investigate the nature of activity on the line and whether any changes to the roadway crossings are warranted.

The recently-completed Town Center Plan (2014) calls for connecting several roads as part of the “ring road” concept proposed in 2007, intended to improve circulation in the government center area on Novi Road, south of I-96. The Crescent Boulevard improvements west of Novi Road are in the CIP 2014-2020 as projects #9 and #18. The Town Center concept also carries a connection to the east, to Lee BeGole Drive (Figure 2.5). That connection helps distribute traffic and improve access. It is another proposal we will study.

Figure 2.5: Crescent Blvd. Extension to Lee BeGole



Details on the 11 tasks to be performed to address the issues just presented are provided next.

2.2 Task 1: Public Outreach/Project Management

Our firm has provided communication services for a variety of multi-modal projects, including many in Michigan, like the Rochester Hills Master Thoroughfare Plan Update, the Ann Arbor Multi-modal Plan, the I-475 Plan in Genesee County, and the widening of I-75 in Oakland County to include an HOV lane. We know how to work with government clients, the media, and the public, including residents, business owners, and elected officials.

We will assist Novi with developing a comprehensive communication strategy that will inform and engage key stakeholders on all aspects of the TMP study to create an understanding of it. We will focus on the following goals:

- Ensure that accurate, up-to-date information is provided to minimize confusion and concern;
- Help Novi act on suggestions and concerns that

will improve the daily experience of its citizens; and,

- Enable Novi to set a new standard of communication through innovation in informing the public.

To achieve these goals, we will assist Novi in answering questions and addressing concerns immediately. We will keep Novi apprised of all relevant issues that arise throughout the various stages of the project. Acting in cooperation with Novi, we will ensure that all discussions and meetings with the public are documented; all issues, commitments, and claims are tracked so the proper follow-up actions are taken until a resolution is achieved. Establishing a basis of trust and cooperation with the public throughout the project is essential.

The communications strategy will be documented in a Technical Memorandum completed by the end of the first month of the project. It will address:

- Strategies for increasing awareness of the project;
- Strategies to reach diverse populations;
- Interviews with key stakeholders;
- Public meetings; and,
- Web site and Web presence.

2.2.1 Tools

Our communications strategy will include a range of tools that ensure meaningful participation and public dialogue. These include traditional techniques, social media, and technology-based tools. The process will include three public meetings, meetings with the Planning Commission and City Council, and ongoing daily communication in person, as well as via phone and email, with the client's project manager. Key constituencies to be involved are:

Constituency 1 – The general public with focused attention on special constituencies who are often absent from the planning process, including seniors, the disabled, and those for whom English is not their first language.

Constituency 2 – Community “Thought Leaders,” business leaders, and related interest groups, such as neighborhood associations, and historical and environmental organizations.

Constituency 3 – Government officials such as the Mayor, Council members, Planning Commission members, and appointed officials of government agencies.

To reach each group, Twitter, Facebook, blast emails and USPS mailings will be the first element of communication. Just as we did in developing the Rochester Hills TMP Update, mailing lists will be assembled from neighborhood organizations, business groups, special interest groups, governmental agencies, and special projects. Members of our staff will visit groups/individuals with an interest in the project to advise them of the study process and milestone events. This is particularly important to reach constituencies who are often not heard in the debate over government actions.

We will ensure all discussions and meetings with the constituencies are documented, and all issues, commitments, and claims are tracked so the proper follow-up actions are taken until a resolution is achieved. Establishing a basis of trust and cooperation with the public at the start of the project will ease tensions among all parties involved.

In addition to the commonly-known techniques (Twitter, Facebook, and the like) just noted, several additional approaches we have used successfully, and which will be employed in this project, are discussed next.

“Electronic Voting”: A series of items/issues can be presented and explained at public meetings, with instantaneously recorded preferences (Figure 2.6). Those in attendance can register their preference on a touch-pad. The result is tied through software to provide immediate presentation of the results to the group and to be saved for use in later evaluations.

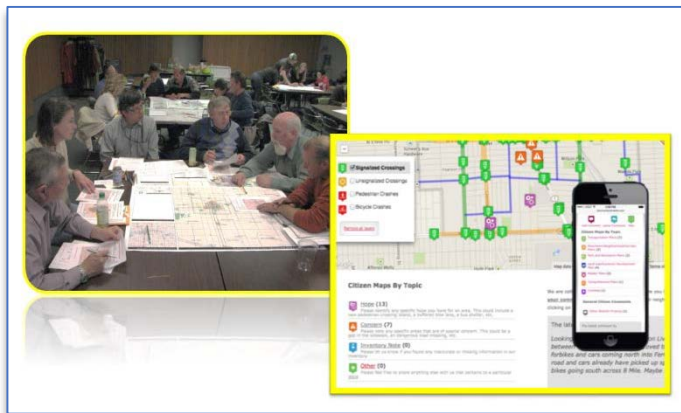
Figure 2.6: Electronic Voting Touch-pads



For example, a list of factors (Table 2.2) can be offered to the public as a basis upon which to evaluate proposed alternatives for the TMP.

Community Remarks: We will use PlaceVision’s “Community Remarks” application (**Figure 2.7**). It allows people to post their ideas, comments and concerns to a website that pinpoints a specific geographic location. It cost-effectively facilitates dialogue about land use, transportation issues, and other matters that may be of interest to the constituent offering input. It can also be used to establish preferences through polling. It is, indeed, a fun way to engage in the planning process.

Figure 2.7: Community Remarks Application



Examples of our current use in large and not-so-large communities can be found for Memphis, Tenn., at and for Key Biscayne, Fla., at

<http://CommunityRemarks.com/MemphisMPO/>

and for Key Biscayne, Fla., at

<http://www.CommunityRemarks.com/KeyBiscayne/>.

You are invited to view those sites.

Information Packet: Information packets, made available at public events, must assume that the reader knows little about the technical subject. Therefore, the introductory information will be broad in scope and set the context of the rest of the packet. It will lead, in graduated steps, through complex issues to the fact that there is a regularly updated transportation plan and a process in which the public is to be meaningfully engaged. To view an information packet we developed for the Novi-Wixom Transportation Improvement Plan, visit:

<https://www.dropbox.com/s/kprt04td0yeb92g/Novi%20and%20Wixom%20Transportation.exe?dl=0>

(If a message comes up about “Protecting Your PC,” click on “More Info,” then click on “Run Anyway.”)

There is always a tension between using technically-correct language, in a legalistic sense, and “plain” language that the public can appreciate. We have many years of experience crafting language that carries the

Table 2.2: Sample Evaluation Factors and Performance Measures

Evaluation Factor	Performance Measure
Minimize Neighborhood Disruption	Projected traffic volumes/speeds on 20 sensitive (environment, aesthetics, social) roadway segments (selected in cooperation with City).
Better Connect Links in the Transit and Road Networks	Change in travel time from baseline system for up to 30 origin-destination pairs (selected in cooperation with City).
Maintain Good Air Quality	CO concentrations at 20 points in the network (selected in cooperation with City) and consistent with noise, community cohesion, and safety factors analysis.
Minimize Purchase of Private Property to Build Transportation Facilities	Number of residential and business properties potentially taken.
Protect Open Spaces/Parks	Number of acres of public and non-public park potentially lost.
Control Noise at Sensitive Locations. (e.g., homes, schools, hospitals, etc.)	Expected “significant change” in noise due to traffic volume change at 20 points (selected in cooperation with City).
Maximize Safe Travel	Change in crashes compared to baseline system in vehicle miles of travel on 20 roadway segments (selected in cooperation with City).

Source: *The Corradino Group of Michigan, Inc.*

message accurately, but simply.

Public Involvement Diary – a record of day-to-day communications will be maintained. It will first summarize the entire program and how it affected developing a multi-modal plan. All e-mails, meeting notes, and other written correspondence will be included – in an appendix.

2.2.2 Project Management

We have a proven management record that is predicated on transparent, consistent, and timely information exchange and coordination with the client. Our management system is driven by the project scope and schedule to establish clear delegation of authority for all tasks. The plan incorporates the following elements.

Project Coordination, Administration and Budget

We will coordinate with Novi's Project Manager on a day-to-day basis by way of informal meetings, discussions, e-mails, letters and memoranda.

Joe Corradino, the Consultant Project Manager, will coordinate activities associated with implementation of the project to include: day-to-day coordination among team members; monitoring budget, scope of work and deliverables; and, project accounting.

Project Team Meetings

We will meet with the client's Project Team on a regular basis, bi-weekly or monthly, depending on Novi's preferences. These meetings will allow for a collaborative review of current and anticipated work, direction, and strategy.

We will prepare monthly progress reports detailing:

- Activities accomplished during the previous month;
- Anticipated activities for the upcoming month;
- Known or anticipated challenges and ways to address them;
- An explanation of any delays and corrective action;
- Stakeholders contacted/interviewed;
- Products (handouts, displays, presentation materials) distributed/used; and,
- Hours and dollars expended against milestones and the overall budget.

Quality Assurance/Quality Control

The overall quality of a project is the responsibility of Corradino's Project Manager, Joe Corradino. He will ensure the final products will meet the client's needs, requirements, and expectations on-time and within budget. Furthermore, the final products will be error-free.

We will use a well-defined process to ensure a quality performance. It will start at the kickoff meeting with Novi to refine the scope and clarify the project issues. Quality Control will be discussed at this meeting, and the process and persons to review products will be identified. Furthermore, and as noted earlier, regular meetings will be conducted with the Project Team to ensure that all aspects of the data development, analysis and reporting efforts are coordinated.

2.3 Task 2: Review Plans Novi/RCOC/SEMCOG

A wealth of planning studies are available to support developing the TMP, providing a solid understanding of the land use/transportation connection. How land is allowed to develop is one of the most fundamental local decisions. That is why, when SEMCOG forecasts future travel, it reaches out to local communities to engage in Small Area Planning. The Novi *Master Plan for Land Use* is the platform for the ongoing decision-making with respect to land use. It will be carefully examined in terms of land that is undeveloped or potentially subject to changes. Together with the zoning code, the Land Use Map points to areas where traffic volumes are most likely to change.

Because a substantial amount of traffic in Novi just passes through, planning in adjacent communities is also of concern. The plan review process will examine how development in nearby communities could affect Novi.

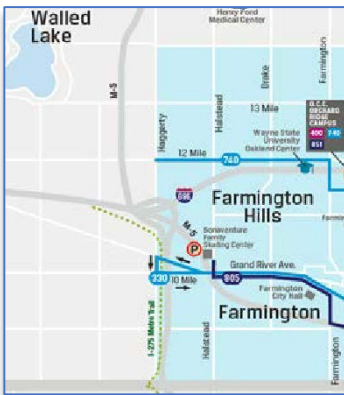
Non-motorized travel is getting attention in Novi to improve mobility, health, and quality of life. Novi's process of annually updating its *Non-Motorized Master Plan* is methodical and logical, while remaining flexible, recognizing that needs change over time. In terms of long-range planning, non-motorized needs are particularly important because they can affect roadway right-of-way needs. If a new road is planned without adequate right-of-way, non-motorized options are

limited.

We have reviewed all relevant studies listed in the RFP. We authored the *I-96 Wixom/Novi Transportation Study* to address the issues of increased traffic resulting from increased capacity on I-96 and the development of a reconfigured interchange at Beck Road. Together with other socioeconomic factors, substantial development ensued at Novi's interchanges with I-96 that had profound effects on the community. Corradino's analysis then took the changes and forecasts into account to make recommendations for multi-modal solutions for a substantial portion, but not all, of the City. This effort to develop a Thoroughfare Master Plan will take a broader view of the entire community out to 2040. Our work on the Novi/Wixom Study is a sound base from which to start.

Corradino will investigate the available long-range transit plans. Oakland County is a member of the Regional Transit Authority of Southeast Michigan (RTA). RTA is responsible for developing a Regional Master Transit Plan to guide present and future service. The RTA mandate to develop high-level transit in the Michigan, Woodward, and Gratiot corridors will not reach or relate to Novi in the foreseeable future. On the

Figure 2.8: SMART Routes near Novi 2015



other hand, SMART bus service now reaches to the east border of Novi. We will review SMART's ability to extend service into Novi, if that is a viable option.

The Town Center Area Study builds on the Ring Road Scoping Study. Its proposals are long-range in nature and set the development pattern

for that subarea. We will review the findings of the Town Center Study to determine their long-term effects and long-range needs.

Crash data, including modal analysis (crashes involving pedestrian and bicyclists) can point to necessary crash countermeasures. These data and data available through the Traffic Improvement Association of

Michigan will be reviewed to determine patterns or needs that the TMP can address.

The *Community Assessment Survey of Older Adults* identified actions that can be taken at the human scale of individual communities to enhance the quality of life for older Americans. They support design features to promote active-living communities, zoning to promote affordable housing, design standards that encourage walkability, and provisions for senior transportation.

At the end of this task, we will prepare Technical Memo No. 2 that will summarize the pertinent elements of each study. We will miss nothing.

2.4 Task 3: Compile Data on Existing and Future Conditions

Developing a multi-modal transportation plan requires an inventory and assessment of existing and future conditions – land use and transportation.



Corradino has performed this task in every long-range planning effort the firm has conducted. While all plans must satisfy certain requirements, each study has a different emphasis. For example, the Lansing, Mich., region emphasized controlled growth or "Wise Growth." Gainesville, Fla., emphasized transit, accommodating the University of Florida, and low-cost roadway and traffic signal improvements. The emphasis for Memphis is "Livability."

Traditionally, the roadway network has been the primary

concern in a long-range plan. But a truly multi-modal plan extends to pedestrians, bicyclists, transit users, and freight. Nonetheless, highways will be critical to assembling and completing an up-to-date description of the existing needs, committed projects, functional classification, and traffic. This analysis must identify deficiencies, as indicated by congestion, low speeds, substandard pavement, and crashes.

Major corridors to be focused on in this task include, but are not limited to:

- 10 Mile Road;
- 12 Mile Road;
- Grand River;
- Novi Road; and,
- Meadowbrook Road.

A key part of Task 3 is assembling information on financial resources. The work will begin by examining the financial plans to support the City's existing Capital Improvement Plan and SEMCOG's long range transportation program. Funding sources and amounts in those plans will be updated and new sources will be considered and added, as appropriate. The impact of the federal MAP-21 legislation will be included here. Likewise, approaches developing through state and federal efforts to provide adequate revenue for transportation infrastructure will be included in this analysis.

In developing/evaluating alternative transportation plans, we will refine the funding sources to establish a Financial Resources Plan that will identify: 1) projects by the years over which they will be implemented using current revenue sources; and, 2) projects that will be associated with proposed new revenue sources, if any.

Technical Memo No. 3 will document the assessments completed in this task.



10 Mile at Novi Road, view to the north



12 Mile Road at Meadowbrook, view to the southeast of 12 Oaks Mall



Grand River at Novi Road, oblique view to the northwest

2.5 Task 4: Forecast Travel

We will apply the SEMCOG model, as we have done in the past, in developing the Novi 2040 Thoroughfare Master Plan. Major steps in this task will be:

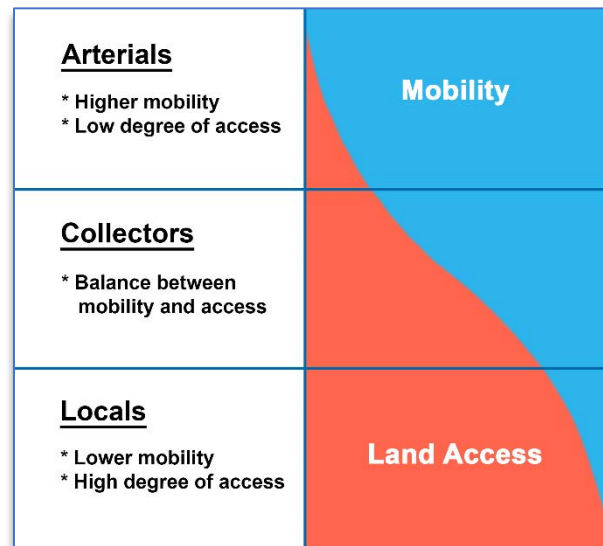
- Meet with City of Novi staff to discuss project needs and data, and to refine the travel forecasting scope.
- Meet with SEMCOG staff, and obtain the model. Of particular importance will be the highway network, Traffic Analysis Zones (TAZ) map, zonal data, and trip tables. Our TAZs and roadway network for Novi will be more detailed than they are in the SEMCOG model.
- Define the roadway network for the City. Travel speeds and traffic counts will be assembled for the network, and household, employment, and special generator data will be assembled for the TAZs.
- Extract data from the SEMCOG model.
- Implement the model. The model and user interface computer programs will automatically manage data and produce reports and maps that will be useful in evaluating proposed new developments and roadway features.
- Validate the model to ensure that it matches base year traffic counts and responds reasonably to changes in transportation supply (the roadway network), and demand (zonal/land use data).
- Apply the model to develop the TMP.
- Develop a comprehensive Technical Memo (No. 4) describing the development and application of the model.
- Train the Novi staff in the use of the model in a one-day session.. The training will include instructions on how to represent proposed new developments and roadways, and how to evaluate model results.

2.6 Task 5: Classify Thoroughfares

Each roadway in a community generally falls into one of several classification groups as shown here.

Novi's thoroughfares are further subdivided to differentiate among major arterials, arterials, minor arterials, non-residential and residential collectors, to account for differences in design and usage.

Two factors are key to evaluating each thoroughfare's classification and whether it should be reclassified:



Source: USDOT FHWA

accessibility, related to the land use to which the roadways connect; and, mobility, allowing for varying levels of movements, at different speeds, around and through a community. To determine accessibility and mobility in relation to each other, a matrix of metrics, such as current roadway use and throughput (amount of system flow), adjacent land uses, and needs will be applied.

Thoroughfare classification will dictate aspects of roadway design, such as lane width, shoulder width, and width of median areas, as well as design speed. By extension, design speed also impacts the horizontal and vertical alignments of a roadway, affecting land use and neighborhood cohesion. A sub-classification of roadways will also be determined based on its intended focus – auto-, bicycle-, or pedestrian-oriented – resulting in different emphases in design concept.

Re-classification of thoroughfares may affect the Complete Streets policy adopted in 2010 by the City. Complete Streets focuses on the design of roadways to incorporate all of its expected users. As with roadway traffic, this analysis will hinge on accounting for existing and forecasted congestion, and development, now and in the future.

Technical Memo No. 5 will document the classification/sub-classification of Novi's roads.

2.7 Task 6: Identify Multi-modal Needs

To define the needs of the roadway system, we will use base year and 2040 socioeconomic data and the Travel Demand Model to generate traffic on the existing-plus-committed (E+C) highway system. This analysis will focus on highway levels of service and be augmented by micro-simulations in up to three key corridors using SYNCHRO/CORSIM to specifically define where:

- Additional traffic-carrying capacity of the roadway is needed;
- Cross-access between/among adjoining properties needs to be provided to reduce congestion and crashes; and,
- Improvements to ingress and egress to properties along a corridor need to be made.

Non-motorized needs will be drawn from the annually updated *Non-Motorized Master Plan* enhanced by results of “Community Remarks” and input of the Steering Committee. Existing off-road pathways will also be evaluated to see if they can be improved.

Transit needs will be drawn from use of the tools just discussed plus the 2012 *Community Assessment Survey of Older Adults* augmented by information obtained through use of “Community Remarks”

Technical Memo No. 6 will report the needs by mode as defined by the analysis of this task.

2.8 Task 7: Develop and Evaluate Multi-modal Alternative Strategies

Based on the list of specific needs developed in Task 6, we will identify alternative transportation methods for each need. These methods, by mode, will include the following.

Highway-related Infrastructure

In addition to constructing wider roads, there are a number of opportunities for increasing capacity and making better use of existing arterials. Techniques include:

- Traffic signal improvements, including ITS;
- Arterial surveillance and management;
- Intersection improvements;
- Turn prohibitions;
- One-way streets;
- Reversible lanes;
- Improved traffic control devices; and,
- Access management.

An important consideration in coordinating signal systems is use of the ITS technique known as SCATS – Sydney Coordinated Adaptive Traffic System – and its supporting Autoscope video-imaging. It is extensively used in in Oakland County. Other ITS possibilities include: expanding and improving the network of communications among ITS components; expansion of changeable message signs to arterials; and, in-vehicle telematics and wireless communications that could, for example, offer detour routes.

Transportation Demand Management (TDM)

There will be a comprehensive analysis of approaches to managing transportation demand as Novi continues to develop. In its broadest sense, demand management is aimed at reducing the impact of traffic by influencing people’s behavior. Evidence indicates that well-focused demand management programs can reduce peak period traffic by up to 15 percent. But, demand reduction efforts must be undertaken on a truly broad and comprehensive scale to appreciably reduce traffic on major arterials. So, realistic expectations of demand management must be set. The components to be studied include:

- Alternative work hours;
- Telecommuting; and,
- Ridesharing.

Alternative Work Hours – Spreading the demand for travel over a wider band of time through “alternative work hours” programs is another demand management technique. By spreading demand, an existing bus fleet and road network can serve more commuters without additional investment in peak capacity. There are three predominant methods of spreading commuter travel demand: *Staggered Hours*, *Flex-time*, and *Compressed Work Week*.

Telecommuting – The number of telecommuters nationally totals over eight million people.

Telecommuting has led to a decrease in peak-hour travel but has also been linked to increased travel in non-peak periods.

Ridesharing – Ridesharing can involve “carpooling,” “vanpooling,” and “buspooling.” Ridesharing usually constitutes a key element of a demand management program.

Non-motorized Options

Providing preferential, often restricted, access to specified areas for bicycles and pedestrians offers an incentive for travelers to choose those modes. It also provides a safer, greener, less-noisy environment. While this method of managing traffic is often limited to parks and recreation attractions, there are other options that can enhance the traveling experience and offer significant quality-of-life benefits to the entire community.

Transit Options

Transit service works best when tailored to the types of land use and the density of population, employment and commercial development in the areas it serves. Density of development affects the extent to which transit is used. Higher densities, in the range of 4,500 people/employees per square mile, lead to increased ridership.

When development patterns are more dispersed, as in Novi, traditional transit service can be provided in two basic ways. First is to provide local service between particular nodes of development and the surrounding residential areas. The second way is to provide a grid of transit services that cross in a perpendicular fashion on the street network. This allows patrons to travel theoretically from one point to any other point in the area with no more than one transfer.

2.9 Task 7A: Develop Performance Measures

As noted earlier, MAP-21 provides a comprehensive performance-based approach to decision making. This need not only applies to the final plan, but all alternatives that are studied in the process of developing the plan. It has been our practice to integrate performance and

evaluation reports in the output of the Travel Demand Model. With this approach, we create travel-based performance measures every time the model is run. The performance measures are depicted in tables, charts, graphs, and maps (**Figure 2.9**). Corradino has used this approach in LRTP’s and models for Lansing and Rochester, Mich.; Indianapolis, Ind.; Lexington, Ky.;

Figure 2.9: Potential Evaluation Factors and Performance Measures by

	Travel Demand	Travel Efficiency	Facility Conditions	Safety	Environment	Economic
Auto	<ul style="list-style-type: none"> Traffic volume Vehicle miles traveled Vehicle hours traveled 	<ul style="list-style-type: none"> Congestion delay by vehicle hours Peak period speeds Average speeds Specific road segments by LOS Lane miles by LOS 	<ul style="list-style-type: none"> Pavement conditions Bridge conditions 	<ul style="list-style-type: none"> Accident prediction by links Accident summary for region (PDO, Injury, Fatal, Total) 	<ul style="list-style-type: none"> Air emissions 	<ul style="list-style-type: none"> User benefit \$ Benefit-cost ratio NPV of project GDP impact Personal income Jobs
Transit	<ul style="list-style-type: none"> Net change in ridership Net change in transit share 	<ul style="list-style-type: none"> Transit accessibility to employment Transit headways Transit vehicles over capacity Households within walking distance 	<ul style="list-style-type: none"> Stop and station amenities Park-and-ride conditions 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Effects on auto emissions via transit mode shifts 	<ul style="list-style-type: none"> User benefit \$
Bike and Pedestrian	<ul style="list-style-type: none"> Net change in non-motorized trips Net change in overall mode share 	<ul style="list-style-type: none"> Accessibility to amenities via non-motorized modes Missing links 	<ul style="list-style-type: none"> Sidewalk and dedicated path pavement conditions Bike parking 	<ul style="list-style-type: none"> Number of bike and pedestrian accidents 	<ul style="list-style-type: none"> Effects on auto emissions via non-motorized mode shifts 	<ul style="list-style-type: none"> User benefit \$

Gainesville, Fla.; and, many South Florida communities including Miami, Ft. Lauderdale, and Palm Beach.

Develop Alternative Strategies

We will develop a set of at least three strategies that incorporate alternative transportation modal elements as discussed above. As an example, the strategies could, in relative terms, emphasize:

- Limited growth;
- More growth;
- Highways;
- Non-motorized facilities; and,
- Combination of the above.

The initial alternative strategies will be developed by the City of Novi staff and Corradino. In this process, it is likely that the strategies will be adjusted, some eliminated, and other strategies added. Corradino will present the strategies to the Project Team to be further adjusted. Finally, they will be subject to the evaluation process using the Travel Demand Model, and performance measures calculated for each alternative plan element.

We will develop performance measures to explain the evaluation factors quantitatively and qualitatively. Two examples are: The **quantitative** measure of congestion along key roadway links and at intersections; and, **qualitative** assessment of the degree to which a community's cohesiveness is affected. Developing the final list of performance measures will involve a trade-off of the desirability of a measure with the difficulty of obtaining data for it. This trade-off will be based on the experience of the Project Team and Corradino.

In examining performance measures, community participation needs will always be in focus. Throughout the process, we will ask the following: How can data be developed, particularly graphics, for use in public presentations?

The Technical Memo of Task 7 will describe the menu of strategies and performance measures by which they will be evaluated.

2.10 Task 8: Develop “Needs” and “Affordable” Plans

The menu of strategies identified above will be used to prepare three uniquely different alternatives for comparison with the existing-plus-committed (E+C) transportation system. Once the alternatives are formed and approved through consultation with the Project Team, the Travel Demand Model will be run.

While SEMCOG model output will be sufficient for most analyses, it will be augmented to determine, with more precision, the micro effects of changes on selected roadway links/intersections. For analysis of micro issues associated with roadways, SYNCHR and/or CORSIM, will be used. Each program reflects recommended procedures of the *Highway Capacity Manual*. Each is also user-friendly in its data entry features and provides significant flexibility in analyzing future scenarios.

We will also conduct screening of environmental, social, and cultural impacts to determine if a project qualifies for moving from the Needs Plan to the Affordable Plan. The issues to be examined include:

- Effects on land use;
- Consistency with applicable short- and long-range land use and development plans;
- Impacts on natural and manmade environment:
 - ✓Housing;

- ✓Community development;
- ✓Employment;
- ✓Tourist destinations;
- ✓Parks and recreation areas;
- ✓Recreation areas;
- ✓Historic sites and monuments;
- ✓Wetlands;
- ✓Historic sites (subject to Section 106 of the National Historic Preservation Act);
- ✓Parks and recreational land (subject to Section 4(f) of the Department of Transportation Act of 1966;
- ✓Floodplains;
- ✓Noise sensitive locations; and,
- ✓Air quality at sensitive receptors.
- Environmental justice.

As we conduct the environmental impacts analysis, we will use available Geographic Information System (GIS) databases and flag projects for later consultation with specific agencies, if needed. For example, project effects can be checked against Federal National Register of Historic Places site mapping.

This task will develop a **Needs Plan** which will define the transportation deficiencies that “need” to be addressed in the 2040 Master Thoroughfare Plan, *if funding were not an issue*. The Needs Plan will be multi-modal and will address the roadway, non-motorized, and transit modes, and the activities at special generators. Also included will be the use of ITS. Prioritization of elements in the Needs Plan will then lead to the 2040 “Affordable” Plan and, once approved, it will become the official Thoroughfare Master Plan.

Technical Memo No. 8 will define in detail the elements of the Needs and Affordable Plans.

2.11 Task 9: Prioritize Plan

All the projects in the Needs Plan will not be affordable. So, we will use evaluation factors and performance measures, like those discussed earlier, as a basis for ranking projects in the Needs Plan for inclusion in the Affordable Plan. The preferred alternative that emerges will be “programmed” for implementation. The implementation strategy will define the costs and funding sources to accomplish each plan component, including streetscapes. Phasing of the implementation scenario and responsible organization will be

established in a “responsibilities” matrix (refer to the Dropbox link presented on page 31 of this proposal). Measures of effectiveness and the methods by which they will be established will be developed so implementation progress can be determined.

Our financing strategy will examine a wide array of federal revenue sources including:

- Congestion Mitigation and Air Quality (CMAAQ) Program;
- Highway Safety Improvement Program (HSIP);
- Bridge Replacement and Rehabilitation (BRR) Program;
- National Highway System (NHS) Program;
- National Scenic Byways Program (NSBP);
- Safe Routes to School (SRTS) Program;
- Surface Transportation Program (STP);
- Transportation, Community, and System Preservation Program (TCSP);
- Transportation Enhancement (TE) Program; and,
- Highway Enhancement through Local Partnerships (HELPSection 5307).

Other funding options will be considered because, over the period from now to 2040, the dynamics of transportation funding will change and, likely, dramatically. Those options include:

- Vehicle registration fees;
- Real estate transfer fees;
- Rental car fee impact fees;
- Transportation bonds;
- Developer contributions; and,
- Local-option sales taxes.

Corradino is now involved in assessing the attitudes of voters in Broward County, Fla., towards a local-option sales tax and the political dynamics of getting the issue on a ballot. Our experience can be brought to Novi. Likewise, our current work in Farragut, Tenn., and Fort Lauderdale, Fla., on Developer Contribution Fees as a revenue source, will be helpful in this task.

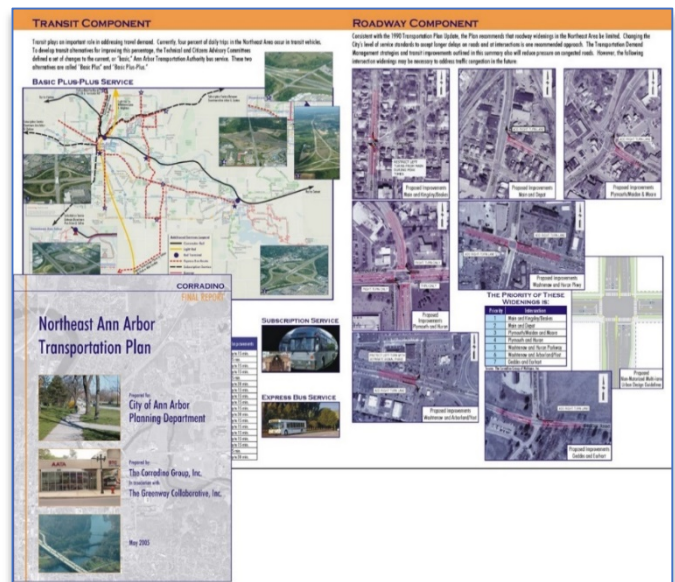
The product of this task will be Technical Memo No. 9. It will define the modal elements of the final Affordable Plan, the implementation, timing, and source of revenue for each element, and the responsible implementer.

2.12 Task 10: Prepare Final Documents

We will submit five draft copies of the Final Report and Summary, plus one electronic copy of each in Word, to Novi for review. Corradino will also prepare revisions to all documentation until the documents are approved. Once approved, we will deliver the following:

- Large format of plan map (Figure 2.10);

Figure 2.10: Example Summary Report Poster



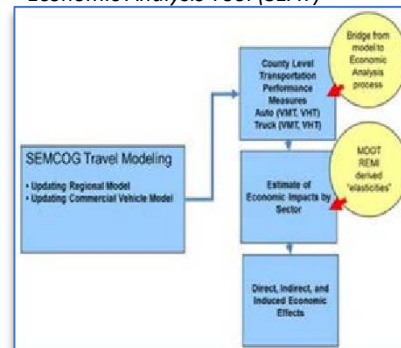
- Twenty printed copies of the final plan;
- PowerPoint slides of presentation of the final plan presented to City Council; and,
- One electronic version in PDF of all deliverables, including documents, spreadsheets, databases, and presentations in Microsoft PowerPoint, Word, Excel, and Access.

2.13 Innovations

Our firm uses regularly a number of innovative tools in developing plans such as the Novi TMP, such as "Community Remarks". Also noted in the scope are:

- In-house application of SEMCOG Model:
 - ✓ Optimizes efficiency and number of alternatives analyzed.
- SYNCHRO/Arterials:
 - ✓ Provides microsimulation performance measures and visualization of analysis results.
- Project Prioritization:
 - ✓ Establish priorities for all projects including timing, funding (amount and source) and responsible implementer.

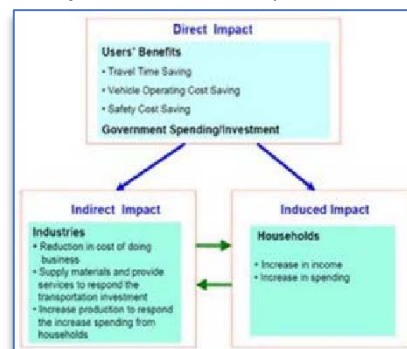
Figure 2.12: Structure of Simplified Economic Analysis Tool (SEAT)



A technique we developed for SEMCOG is the Simplified Economic Analysis Tool (SEAT) used to assess the user benefits and economic impacts of individual projects, groups of projects, or programs of projects. The tool can be used to assess the overall benefits of projects, choose among alternatives, or prioritize projects. The SEAT generates the following outputs:

- Travel Efficiency Measures (in 2010 dollars):
 - ✓ Travel time savings;
 - ✓ Vehicle operating cost savings;
 - ✓ Safety improvements; and,
 - ✓ Emission cost savings.
- Specific Regional Economic Impacts (in 2010 dollars):
 - ✓ Gross Regional Product;
 - ✓ Person income; and,
 - ✓ Employment (total and by industry group).

Figure 2.13: Translating User Benefits into Economic Impacts



The model also calculates two measures of the cost-effectiveness of a project:

- **Benefit-Cost Ratio:** The benefit-cost ratio is calculated by dividing the total discounted benefits by total discounted costs. A benefit-cost ratio of 3.0 means that the public receives three dollars in benefits for every dollar invested (in construction, operations, and maintenance).
- **Net Present Value (NPV):** The net present value is the difference between the discounted present value of benefits and the discounted present value of costs. A positive NPV indicates that benefits exceed costs. However, a large project can have a larger NPV than a small project and still have a lower benefit-cost ratio.

3. Schedule

Our team will essentially complete the analysis and recommendations portions (Tasks 1 through 9) of this project in 6½ months, or by mid-April, 2016. The draft Final Report (which includes the Public Involvement Diary as a separate document) will be provided to Novi for review by the beginning of May, 2016. Based on comments received, that document, and all other deliverables will be completed by mid-June, 2016 (Task 10).

In executing this project, we will produce a Technical Memorandum at the completion of each task from 1 through 9. They will be blended into the Final Report.

Three public meetings will be conducted – in January, 2106, as Tasks 1, 2, and 3 are completed; in April, as Tasks 4 through 9 are completed; and, in June, 2016, to present the contents of the Final Report. At that time, the Final Report will be presented to the Novi City Council. Before then, three meetings will be held with the Planning Commission – in January, 2016, when the Public Outreach/Project Management and Plans Review Tasks are completed; at the beginning of April, when the contents of the “Affordable” Plan are being reviewed for finalization; and, in mid-June, when the Final Report is done. Each of these meetings will precede a public meeting so the Planning Commission can review/comment on the material to be presented to the citizens of Novi.

***Figure 3.1: Proposed
Schedule*** Under
preparation



**NOTICE - CITY OF NOVI
REQUEST FOR PROPOSALS**

THOROUGHFARE MASTER PLAN

The City of Novi will receive sealed proposals for **Thoroughfare Master Plan** according to the specifications of the City of Novi.

Sealed proposals, with fee proposals in a separate sealed envelope, will be received until **3:00 P.M.** prevailing Eastern Time, **Tuesday, June 2, 2015**. Fee proposals will not be read at this time. Proposals shall be addressed as follows and delivered to:

**CITY OF NOVI
CITY CLERK'S OFFICE**
45175 Ten Mile Rd.
Novi, MI 48375-3024

OUTSIDE OF MAILING ENVELOPES/PACKAGES MUST BE PLAINLY MARKED **"THOROUGHFARE MASTER PLAN RFP"** AND MUST BEAR THE NAME OF THE PROPOSER.

The City reserves the right to accept any or all alternative proposals and award the contract to other than the lowest proposer, to waive any irregularities or informalities or both; to reject any or all proposals; and in general to make the award of the contract in any manner deemed by the City, in its sole discretion, to be in the best interest of the City of Novi.

Sue Morianti
Purchasing Manager

Notice dated: May 5, 2015

NOTICE TO PROPOSERS:

The City of Novi officially distributes RFP documents through the Michigan Intergovernmental Trade Network (MITN). **Copies of RFP documents obtained from any other source are not considered official copies.** The City of Novi cannot guarantee the accuracy of any information not obtained from the MITN website and is not responsible for any errors contained by any information received from alternate sources. Only those vendors who obtain RFP documents from the MITN system are guaranteed access to receive addendum information, if such information is issued. If you obtained this document from a source other than the source indicated, it is recommended that you register on the MITN site, www.mitn.info and obtain an official copy.



**CITY OF NOVI
REQUEST FOR PROPOSAL
THOROUGHFARE MASTER PLAN
INSTRUCTIONS TO PROPOSERS**

This RFP is issued by the Purchasing Office of the City of Novi.

IMPORTANT DATES

RFP Issue Date May 5, 2015

Last Date for Questions Wednesday, May 27, 2015 by 12:00 P.M.

Submit questions via email to:
Brian Coburn, PE , Engineering Senior Manager
bcoburn@cityofnovi.org

OR

Barbara McBeth, Deputy Director Community
Development
bmcbeth@cityofnovi.org

Response Due Date Tuesday, June 2, 2015 by 3:00 P.M.

Anticipated Award Date June 22, 2015

QUESTIONS

Please email all questions to the staff member listed above. Please write the name of the RFP in the subject line. If you write anything else in the subject line, your email may be deleted as spam.

TYPE OF CONTRACT

If a contract is executed as a result of the bid, it stipulates a fixed price for products/ services.

PROPOSAL SUBMITTALS

Provide **five (5)** copies of your proposal, **one (1) original** signed in ink and clearly marked as ORIGINAL, and **three (3) copies** of the original proposal, clearly marked as COPY, and **one (1)** copy on a CD. The original and copies should be identical, excluding the obvious difference in labeling. FEE PROPOSALS MUST BE SEALED IN A SEPARATE ENVELOPE. DO NOT INCLUDE ANY PRICING OR FEES IN YOUR TECHNICAL PROPOSAL. No other distribution of the proposal will be made by the Contractor. Proposal must be signed by an official authorized to bind the Contractor to its provisions.

FAILURE TO SUBMIT PRICING ON THE PROPOSAL FORM PROVIDED BY THE CITY OF NOVI MAY CAUSE THE PROPOSAL TO BE CONSIDERED NON-RESPONSIVE AND INELIGIBLE FOR AWARD.

CHANGES TO THE RFP/ADDENDUM

Should any prospective Proposer be in doubt as to the true meaning of any portion of the Request for Proposal, or should the Proposer find any patent ambiguity, inconsistency, or omission therein, the Proposer shall make a written request (via email) for official interpretation or correction. Such request shall be submitted to the specified person by the date listed above. The individual making the request shall be held responsible for its prompt delivery.

Such interpretation or correction, as well as any additional RFP provisions that the City may decide to include, will be made as an addendum, which will be posted on the MITN website at www.mitn.info . Any addendum issued by the City shall become part of the RFP and shall be taken into account by each proposer in preparing their proposal. Only written addenda are binding. It is the Proposer's responsibility to be sure they have obtained all addenda. Receipt of all addenda must be acknowledged on proposal form.

SUBMISSION OF PROPOSALS

Proposals must be submitted in a sealed envelope. Outside of mailing envelope must be labeled with name of contractor and name of RFP. Failure to do so may result in a premature opening or failure to open such proposal.

To be considered, sealed proposals must arrive at City Clerk's Office, on or before the specified time and date. There will be no exceptions to this requirement. Proposal is considered received when in the possession of the City Clerk. The Clerk's Department time stamp will determine the official receipt time. Contractors mailing proposals should allow ample time to ensure the timely delivery of their proposal. Proposals received after the closing date and time will not be accepted or considered. Faxed, emailed, or telephone proposals are not acceptable. The City of Novi shall not be held responsible for lost or misdirected proposals. The City reserves the right to postpone an RFP opening for its own convenience.

Proposals must be clearly prepared and legible and must be signed by an Authorized Representative of the submitting Company on the enclosed form. Proposals must show unit and total prices. *ANY CHANGES MADE ON PROPOSAL FORMS MUST BE INITIALED OR YOUR PROPOSAL MAY BE CONSIDERED NON-RESPONSIVE.*

A proposal may be withdrawn by giving written notice to the Purchasing Manager before the stated due date/closing time. After the stated closing time, the bid may not be withdrawn or canceled for a period of One Hundred and Twenty (120) days from closing time.

Proposers are expected to examine all specifications and instructions. Failure to do so will be at the proposer's risk.

Failure to include in the proposal all information requested may be cause for rejection of the proposal.

Any samples, CDs, DVDs or any other items submitted with your proposal will not be returned to the contractor.

No proposal will be accepted from, or contract awarded to any person, firm, or corporation that is in arrears or is in default to the City Novi upon any debt or contract, or that is in default as surety or otherwise, or failed to perform faithfully any previous contract with the City.

USE OF THE CITY LOGO IN YOUR PROPOSAL IS PROHIBITED.

CONSIDERATION OF PROPOSALS

In cases where items are requested by a manufacturer's name, trade name, catalog number or reference, it is understood that the proposer intends to furnish the item so identified or an item of "equal" quality and value as determined by the City of Novi.

Reference to any of the above is intended to be descriptive, but not restrictive, and only indicates articles that will be satisfactory. Bids of "equal" quality and value will be considered, provided that the proposer states in his/her bid what he/she proposed to furnish, including literature, or other descriptive matter which will clearly indicate the character of the item covered by such bid.

The City hereby reserves the right to approve as an "equal", any item proposed which contains minor or major variations from specification requirements, but which may comply substantially therewith.

RESPONSIVE PROPOSALS

All pages and the information requested herein shall be furnished completely in compliance with instructions. The manner and format of submission is essential to permit prompt evaluation of all proposals on a fair and uniform basis. Unit prices shall be submitted if space is provided on proposal form. In cases of mistakes in extension, the unit price shall govern. Accordingly, the City reserves the right to declare as non-responsive, and reject an incomplete proposal if material information requested is not furnished, or where indirect or incomplete answers or information is not provided.

EXCEPTIONS

The City will not accept changes or exceptions to the RFP documents/specifications unless Contractor indicates the change or exception in the "Exceptions" section of the proposal form. If Contractor neglects to make the notation on the proposal form but writes it somewhere else within the RFP documents and is awarded the contract, the change or exception will not be included as part of the contract. The original terms, conditions and specifications of the RFP documents will be applicable during the term of the contract.

CONTRACT AWARD

The contract that will be entered into will be that which is most advantageous to the City of Novi, prices and other factors considered. The City reserves the right to accept any or all alternative proposals and to award the contract to other than the lowest proposer, waive any irregularities or informalities or both, to reject any or all proposals, and in

general, to make the award of the contract in any manner deemed by the City, in its sole discretion, to be in the best interests of the City of Novi.

After contract award, notification will be posted on the MITN website at www.mitn.info.

SELECTION PROCESS

This document is a Request for Proposals. It differs from an Invitation to Bid in that the City is seeking a solution as described herein, and not a bid meeting firm specifications for the lowest price. As such the lowest price will not guarantee an award recommendation. Competitive sealed proposals will be evaluated based on criteria formulated around the most important features of the service, of which qualifications, experience, capacity and methodology, may be overriding factors, and price may not be determinative in the issuance of a contract or award. The proposal evaluation criteria should be viewed as standards that measure how well a contractor's approach meets the desired requirements of the city. Those criteria that will be used and considered in evaluation for award are set forth in this document. The City will thoroughly review all proposals received. A contract will be awarded to a qualified contractor submitting the best proposal.

GENERAL CONDITIONS

INSURANCE

A certificate of insurance naming the City of Novi as an additional insured must be provided by the successful proposer prior to commencement of work. A current certificate of insurance meeting the requirements in Attachment A is to be provided to the City and remain in force during the entire contract period.

TAX EXEMPT STATUS

It is understood that the City of Novi is a governmental unit, and as such, is exempt from the payment of all Michigan State Sales and Federal Excise taxes. Do not include such taxes in the bid prices. The City will furnish the successful proposer with tax exemption certificates when requested. The City's tax-exempt number is 38-6032551.

FREIGHT CHARGES/SHIPPING/HANDLING

All bid/proposal pricing is to be F.O.B. destination.

INVOICING

Invoices must be mailed to: City of Novi, Attn: Finance Department, 45175 Ten Mile Road, Novi, MI 48375. We do not accept emailed or faxed invoices.

CONTRACT TERMINATION

The City may terminate and/or cancel this contract (or any part thereof) at any time during the term, any renewal, or any extension of this contract, upon thirty days (30) days written notice to the Contractor, for any reason, including convenience without incurring obligation or penalty of any kind. The effective date for termination or cancellation shall be clearly stated in the written notice.

TRANSFER OF CONTRACT/SUBCONTRACTING

The successful proposer will be prohibited from assigning, transferring, converting or otherwise disposing of the contract agreement to any other person, company or corporation without the expressed written consent of the City of Novi. Any subcontractor, so approved, shall be bound by the terms and conditions of the contract. The contractor shall be fully liable for all acts and omissions of its subcontractor(s) and shall indemnify the City of Novi for such acts or omissions.

NON-DISCRIMINATION

In the hiring of employees for the performance of work under this contract, neither the contractor, subcontractor, nor any person acting in their behalf shall by reason of religion, race, color, national origin, age, sex, height, weight, handicap, ancestry, place of birth, sexual preference or marital status discriminate against any person qualified to perform the work required in the execution of the contract.

ACCEPTANCE OF PROPOSAL CONTENT

Should a contract ensue, the contents of the proposal of the successful Proposer may become contractual obligations. Failure of a contractor to accept these obligations may result in cancellation of the award.

DISCLOSURE

All documents, specifications, and correspondence submitted to the City of Novi become the property of the City of Novi and are subject to disclosure under the provisions of Public Act No. 442 of 1976 known as the "Freedom of Information Act". This Act also provides for the complete disclosure of contracts and attachments hereto. This means that any informational material submitted as part of this RFP is available without redaction to any individual or organization upon request.

ECONOMY OF PREPARATION

Proposals should be prepared simply and economically, providing a straightforward and concise description of the contractor's ability to meet the requirements of the bid. Emphasis should be on completeness and clarity of content. Included in the response must be a point by point response to the Requirements and other sections of the bid.

The City of Novi is not liable for any costs incurred by proposers prior to issuance of a contract.

INDEPENDENT PRICE DETERMINATION

By submission of a proposal, the offerer certifies, and in case of a joint proposal, each party hereto certifies as to its own organization, that in connection with the proposal:

- (a) The prices in the proposal have been arrived at independently without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other offerer or with any other Competitor; and
- (b) No attempt has been made or will be made by the offerer to induce any other person or firm to submit or not submit a proposal for the purpose of restricting competition.

Each person signing the proposal certifies that:

- (c) He is the person in the offerer's organization responsible within that organization for the decision as to prices being offered in the proposal and that he has not participated and will not participate in any action contrary to (a) and (b) above; or
- (d) He is not the person in the offerer's organization responsible within that organization for the decision as to prices being offered in the proposal but that he has been authorized in writing to act as agent for the persons responsible for such decisions in verifying that such persons have not participated, and will not participate, in any action contrary to (a) and (b) above, and that as their agent, does hereby so certify; and that he has not participated, and will not participate in any action contrary to (a) and (b) above.

A proposal will not be considered for award if the sense of the statements required in the proposal has been altered so as to delete or modify the above.



CITY OF NOVI
REQUEST FOR PROPOSALS
THOROUGHFARE MASTER PLAN
SPECIFICATIONS

SCOPE OF WORK

2040 Thoroughfare Plan for the City of Novi

The City of Novi has a need to develop a multi-modal Thoroughfare Plan for the major and minor arterials within its jurisdiction. It is expected that the selected consultant will lead a process that combines technical analysis with public and stakeholder outreach that determines priorities over a 25-year time horizon. The resulting plan will be delivered in an illustrative, easy to read format that is easily shared with City residents and other key constituents.

BACKGROUND

The City of Novi is located in Oakland County, and encompasses 31 square miles that are largely developed. Novi has developed into a major population and employment center in the region, with more than 55,000 residents and nearly 38,000 jobs as of 2010.

As it has grown, the City has conducted numerous related plans and studies, including:

- [Town Center Area Study](#) (2014)
- [2014 - 2020 Capital Improvement Program](#) (2014)
- [Community Assessment Survey](#) (2012)
- [Non-Motorized Master Plan](#) (2011, plus annual updates)
- [I-96 Wixom Novi Transportation Study](#) (2011)
- [Master Plan for Land Use](#) (2010)
- [Ring Road Scoping Study](#) (2007)
- [Novi Road Corridor Plan](#) (2001)
- Pathway Prioritization Plan
- Beck Road Scoping Study
- High Frequency Crash Study
- EA for 12 Mile Road (in progress)
- Novi Road Pedestrian Crossing

Although these previous plans have many active recommendations for the City's main thoroughfares, none provide a comprehensive strategy that prioritizes multi-modal transportation needs and investments across the City's entire thoroughfare network over the long term.

PROJECT TASKS

The project will include the following tasks as a minimum:

- Review and incorporation of previous planning efforts
- Review of transportation planning and facilities in neighboring communities, as well as regional plans from SEMCOG, Road Commission for Oakland County, MDOT, and others
- Compilation of existing transportation data and assessment of additional data needed to perform planning (available data will be found in plans/studies listed above as well as on City web site <http://www.cityofnovi.org/Community/Map-Gallery.aspx>)
- Collection of additional transportation data, as needed, to support planning process
- Public outreach and involvement at a minimum of two points in the project process:
 - Gather input on plan goals and needs
 - Present draft plan
- Coordination meetings and reports to City's Planning Commission
- Analysis of existing and projected future conditions to include:
 - Existing infrastructure assets and conditions
 - Traffic along corridors and at intersections (taking into account existing and forecasted congestion based on planned uses in Novi, and the building and development taking place in neighboring communities)
 - Traffic safety and crash review
 - Review and possible recommendations to update the Thoroughfare Classifications as identified on the Master Plan for Land Use
 - Pedestrian and non-motorized needs and potential role of transit service
- Classification of City thoroughfares (e.g., auto-focused, pedestrian-focused) and associated design principles.
- The City may select one or more corridors for an in-depth review of safety, access management, signalization, or other improvements
- A prioritized Plan document outlining:
 - Improvements to address traffic congestion and safety issues
 - Improvements to address non-motorized needs and safety
 - Improvements to thoroughfare streetscape elements (street lighting, special amenities area like Town Center and Gateway East, art, benches, quality of life, mast arms)
 - Costs of priority projects
 - Phased implementation of priority projects
- Final presentation to City Council

PROJECT REQUIREMENTS

Upon authorization to proceed, the selected consultant shall:

1. Prepare a schedule indicating general time frames, benchmarks, required approvals and meetings (including public outreach activities). The schedule shall be developed after meeting with appropriate staff.
2. Prepare and present draft deliverables to staff and others as designated by the project manager for the City of Novi, including:
 - o 5 hard copies of draft deliverables, plus one electronic copy in Word
3. Make revisions to deliverables based on input from designated staff reviewers.
4. Monthly progress updates and meetings, as directed by the City project manager.
5. Submit final Thoroughfare Plan documents, including:
 - o 20 hard copies of final plan
 - o Large-format thoroughfare plan map
 - o PowerPoint slides from final presentation
 - o Electronic copies in PDF of all deliverables
 - o All maps shall be consistent with the City's Geographic Information System

ANTICIPATED MILESTONES

- o Project initiation: June 2015
- o Draft Plan: November 2015
- o Final Plan: January 2016

PROPOSAL EVALUATION CRITERIA

Proposals will be evaluated by the Qualifications Based Selection (QBS) process using the following criteria:

1. Firm's current resource capability to perform required services
2. Evaluation of Statement of Understanding of Project
3. Evaluation of assigned personnel; qualifications/education/certifications of staff
4. Demonstrated expertise in comparable projects of similar scope.
5. Analysis of subjective statements applicable to the project as required on the RFP



**CITY OF NOVI
INSURANCE REQUIREMENTS
ATTACHMENT A**

1. The Contractor shall maintain at its expense during the term of this Contract, the following insurance:
 - a. **Worker's Compensation** insurance with the Michigan statutory limits and Employer's Liability insurance with minimum limits of **\$100,000** (One Hundred Thousand Dollars) each accident.
 - b. **Commercial General Liability Insurance** – The Contractor shall procure and maintain during the life of this contract, Commercial General Liability Insurance, Personal Injury, Bodily Injury and Property Damage on an "Occurrence Basis" with limits of liability not less than **\$1,000,000** (One Million Dollars) per occurrence combined single limit.
 - c. **Automobile Liability** insurance covering all owned, hired and non-owned vehicles with Personal Protection insurance to comply with the provisions of the Michigan No Fault Insurance Law including Residual Liability insurance with minimum bodily injury limits of **\$1,000,000** (One Million Dollars) each person and **\$1,000,000** (One Million Dollars) each occurrence and minimum property damage limits of **\$1,000,000** (One Million Dollars) each occurrence.
 - d. The Contractor shall provide proof of **Professional Liability** coverage in the amount of not less than **\$1,000,000** (One Million Dollars) on a per claim/aggregate.
2. All policies shall name the Contractor as the insured and shall be accompanied by a commitment from the insurer that such policies shall not be canceled or reduced without at least thirty (30) days prior notice date to the City; alternately, contractor may agree to provide notice of such cancellation or reduction.
3. The City of Novi shall be named as Additional Insured for General Liability and Auto Liability. Certificates of Insurance evidencing such coverage shall be submitted to City of Novi, Purchasing Department, 45175 Ten Mile Road, Novi, Michigan 48375-3024 prior to commencement of performance under this Contract and at least fifteen (15) days prior to the expiration dates of expiring policies. A current certificate of insurance must be on file with the City for the duration of the contract. Said coverage shall be primary coverage rather than any policies and insurance self-insurance retention owned or maintained by the City. Policies shall be issued by insurers who endorse the policies to reflect that, in the event of payment of any loss or damages, subrogation rights under those contract documents will be waived by the insurer with respect to claims against the City.

4. The Contractor shall be responsible for payment of all deductibles contained in any insurance required hereunder.
5. If, during the term of this Contract, changed conditions or other pertinent factors should in the reasonable judgment of the City render inadequate insurance limits, the Contractor will furnish on demand such additional coverage as may reasonably be required under the circumstances. All such insurance shall be effected at the Contractor's expense, under valid and enforceable policies, issued by the insurers of recognized responsibility which are well-rated by national rating organizations and are acceptable to the City.
6. If any work is sublet in connection with this Contract, the Contractor shall require each subcontractor to effect and maintain at least the same types and limits of insurance as fixed for the Contractor.
7. The provisions requiring the Contractor to carry said insurance shall not be construed in any manner as waiving or restricting the liability of the Contractor under this contract.
8. The City has the authority to vary from the specified limits as deemed necessary.

ADDITIONAL REQUIREMENTS

HOLD HARMLESS/INDEMNITY

1. The Contractor agrees to fully defend, indemnify and hold harmless the City, its City Council, its officers, employees, agents, volunteers and contractors from any claims, demands, losses, obligations, costs, expenses, verdicts, and settlements (including but not limited to attorney fees and interest) resulting from:
 - A. Acts or omissions by the Contractor, its agents, employees, servants and contractors in furtherance of execution of this Agreement, unless resulting from the sole negligence and tort of the City, its officers, employees, agents and contractors.
 - B. Violations of state or federal law involving whether administrative or judicial, arising from the nature and extent of this Agreement.
 - C. The Contractor agrees to defend the City from and against any and all actions or causes of action, claims, demands or whatsoever kind or nature arising from the operations of the Contractor and due to the acts or omissions of the Contractor or its agents, including, but not limited to, acts of omissions alleged to be in the nature of gross negligence or willful misconduct. The Contractor agrees to reimburse the City for reasonable attorney fees and court costs incurred in the defense of any actions, suits, claims or demands arising from the operations of the Contractor under this Agreement due to the above-referenced acts or omissions.

2. The Contractor agrees that it is its responsibility and not the responsibility of the City of safeguard the property and materials used in performing this Contract. Further the Contractor agrees to hold the City harmless for any loss of such property and materials used in pursuant to the Contractor's performance under this Contract.

3. The Contractor shall not discriminate against any employee, or applicant for employment because of religion, race, color, national origin, age, sex, height, weight, handicap, ancestry, place of birth, sexual preference or marital status. The Contractor further covenants that it will comply with the Civil Rights Act of 1973, as amended; and the Michigan Civil Rights Act of 1976 (78. Stat. 252 and 1976 PA 453) and will require a similar covenant on the part of any consultant or subcontractor employed in the performance of this contract.