



August 31, 2009

Otsego County Economic Alliance
1062 Cross Street
Gaylord, MI 49735

Attention: Mr. Jeff Ratcliffe, Executive Director

Re: Estimated Costs for Traffic Adaptive Signal Control System
Otsego County – Gaylord Business Corridor

Dear Mr. Ratcliffe:

This letter is to follow up our recent telephone discussions concerning costs for a traffic adaptive signal control system that would accommodate the unique large fluctuations in traffic flow due to seasonal variations in attractions in the Otsego County and Gaylord area.

Based on the traffic flow variations in your area, we recommend installation of the ATMS System. The ACTRA system, in conjunction with the SCOOT Traffic Adaptive System, will be capable of adjusting the traffic signal splits (time given to each movement), as well as the cycle lengths as the traffic volumes fluctuate. As the traffic volumes increase along a corridor, the cycle lengths will increase to meet traffic demand along the main street. Conversely, as the traffic volumes decrease, the cycle lengths will decrease to provide a more responsive system for the side street volumes. This system is necessary to accommodate the large seasonal variations in traffic in your area.

The cost of an ATMS system can vary greatly depending on how robust of a system is desired and how many improvements are implemented at the local intersections. Our preliminary estimate, including design and construction, for a SCOOT Traffic Adaptive System, which includes upgrading traffic signal controllers, installing Sensys Wireless detection, and installing broadband wireless interconnect is \$1,791,000. Attached is an itemized list showing the cost of components needed for this system.

Another option is to utilize the ACSLITE Closed Loop Adaptive System instead of ACTRA and SCOOT which would reduce the overall cost by approximately \$400,000. However, the ACSLITE system has several limitations including a limit of only 16 intersections connected to the system. Additionally, the ACSLITE system does not increase the cycle lengths as traffic volumes build, it will only adjust the phase split times. Therefore, the ACSLITE system is not a true ATMS traffic adaptive system. Due to the past growth in the Gaylord Business Corridor, and the potential for future growth as the economy in the area improves, the ACSLITE system would be obsolete in the very near future.

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|-----------------------------------|------------------|
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Otsego County Economic Alliance
August 31, 2009
Page 2

Because it is necessary to conduct traffic analyses to determine initial signal cycle lengths, splits, etc., we also recommend that a Traffic Signal Operations Study be performed for the study corridors including all 16 signals. This study will be a full evaluation of the existing system and traffic conditions to determine the appropriate system that is needed and will also determine if any geometric deficiencies exist such as the need for turning lanes, etc., which will improve traffic flow and make the control system more efficient. The estimated cost of the traffic study is \$175,000.

Please let me know if you have any questions concerning this information.

Very truly yours,

Wade Trim Associates, Inc.
Fed I.D. No. 38-1802386



Martin R. Parker, Jr, PE
Principal, Traffic Engineering



Patrick C. Johnson, PE
Senior Signal Systems Engineer

MRP:PCJ:sc
AAA 8180-09

PW/AAA 8180-09/ADMIN-SUPPORT/CORRESPONDENCE/OTSEGO COUNTY SIGNAL SYTEM LETTER (2) REVISED.DOCX
Attachment

Gaylord/Otsego County ATMS

Full ATMS with Controller Upgrades at 16 locations

| Item | Cost |
|---|-------------------------------|
| Marc Master and Mark Nx Software | \$ 10,000.00 |
| ACTRA - 20 Intersectins | \$ 128,750.00 |
| SCOOT Software | \$ 410,000.00 |
| Controller and Cabinet Upgrades | \$ 210,816.00 |
| Sensys Wireless Detection | \$ 210,768.00 |
| Broadband Radio Interconnect -19 radios | \$ 100,000.00 |
| Field Ethernet Switches | \$ 25,000.00 |
| 1 Server (Including Software) | \$ 4,000.00 |
| Work Stations (Including Software) | \$ 3,000.00 |
| Ethernet Switchs | \$ 6,000.00 |
| Misc Equipment | \$ 20,000.00 |
| Contractor Labor and Mark up | \$ 350,000.00 |
| Design Costs | \$ 150,000.00 |
| ATMS Total Costs | <u>\$ 1,628,334.00</u> |
| 10% Contingency | \$ 1,791,167.40 |