

# Township Maps Its Success

Interactive GIS maps are part of a road master plan.

By John A. Harvey

In recent years, the Charter Township of Oxford, MI, along with much of northern Oakland County, MI, has experienced considerable growth in residential development and associated services uses. The Oxford Township board of trustees has recognized that steady residential growth is likely to continue in the community, particularly as local gravel mining operations are re-claimed and developed as desirable residential uses. With this anticipated growth, community infrastructure improvements are inevitable. Nowhere is this more evident than in the increasingly stressed system of local, county, and state roads in and around Oxford Township.

The important issue of improving and expanding the road system in the community to address current and future needs is impacted by limited available funding sources. The township expects that competition for transportation funding will grow increasingly more aggressive as the region's overall transportation infrastructure ages and as other townships and municipalities within the county experience similar, or even more profound, growth. Acknowledging this, the township has teamed with the region's primary road funding source, the Road Commission for Oakland County (RCOC) to identify and convey maintenance and improvement/expansion needs. The RCOC maintains short range (three-year) and long range (25-year) road improvement plans for the entire county; it is from these lists that projects are selected for implementation.

The RCOC recognizes that limited funds available in the near and long

term severely constrain the number, type, and location of projects that can be considered for implementation in its short and long range plans. In light of this the RCOC recommended that the township develop a roads master plan identifying specific projects that are of reasoned high priority to the township and consistent with long range community planning objectives. This will help the RCOC distinguish Oxford Township projects from the needs articulated by all other townships and municipalities within the county. The intent is to assert the importance of specific improvements within the township and thus to capture as much available funding for the township's roads as possible.

Oxford Township is located at the northern edge of Oakland County and the Greater Detroit Region. The Village of Oxford occupies roughly 1.5 square miles within the township. The township is strategically located between two major expressways connecting extensive regional shopping and employment opportunities.

Roads within the township are under the jurisdiction of the RCOC, with the exception of private roads and M-24 (Lapeer Road), a major north to south commuting artery in northern Oakland County, that centrally divides the Township. M-24 is under the jurisdiction of the Michigan Department of Transportation (MDOT). County roads are further classified as either primary or local and either paved or gravel surfaced. RCOC has also classified several roads as natural beauty roads, distinguished for the unique natural character these road corridors offer the community and the region.

There are about 46 miles of gravel roads in Oxford Township that require maintenance by the RCOC. The RCOC reports that its studies have shown that an average daily traffic of 800 vehicles per day is the break point in determining whether a gravel road should be paved. When 800 vehicles per day is exceeded, the annual cost of maintenance exceeds the corresponding annualized cost of paving the road.

Currently, nine gravel roads exceed this warrant, of which six, representing about 12 miles, are considered high priority projects. The RCOC receives \$1 million per year from the state to pave gravel roads in the county. Assuming average construction costs exceeding more than \$1 million per mile of newly paved road, this results in less than one mile of new road per year. Cumulatively the high priority projects already identified would likely cost well in excess of \$12 million to complete, underscoring the importance of distinguishing Oxford Township's unique needs in competing with other county jurisdictions in attempting to capture available funding.

In March 2003, Oxford Township's Roads Committee, representing the board of trustees, selected Professional Engineering Associates, Inc. (PEA, [www.peainc.com](http://www.peainc.com)), to prepare the roads master plan in participation with the township, county, and community stakeholders.

## Planning Tool

A roads master plan is a community planning tool that provides a guide to attaining the safe and orderly movement of people and goods throughout the community in the near and long term.

It considers the immediate and future needs of the many stakeholders within the community to provide for the controlled improvement and expansion of the road system. A roads master plan, when coordinated and implemented with a land use master plan, will improve the continuity of traffic flow within and between neighborhoods and throughout the community while allowing for the overall relief of the growing problem of traffic congestion. Further, it will assure the preservation of adequate right-of-way and minimize the extent and cost of future land acquisitions along intended growth corridors.

A roads master plan provides a “road map” to the future improvement and development of the township’s transportation infrastructure. It is a key guide for local, county, and state officials in determining the funding of future improvements within the community. A roads master plan provides recommendations and serves as solid tool to help the RCOC prepare its short and long range regional transportation plans and makes a case for future financial support.

There are a number of key stakeholders that have an interest in the development of an effective roads master plan within the community. Residents, local businesses, schools, emergency services, township administrators, departments, and officials must have their interests represented in the plan. Also impacted are residents and officials from the Village of Oxford and other surrounding communities. Finally, regional transportation agencies such as the RCOC as well as MDOT are aware of regional transportation needs and how they affect, and are affected by, the needs of Oxford Township. Additionally these agencies represent the primary funding sources for many of the future public road improvements that are identified in this plan.

In March, 2003, PEA met with the Charter Township of Oxford Roads Committee (ORC), the North Oakland Transportation Authority, and the RCOC to obtain available information and to discuss roadway projects for inclusion into the roads master plan. The existing road infrastructure within

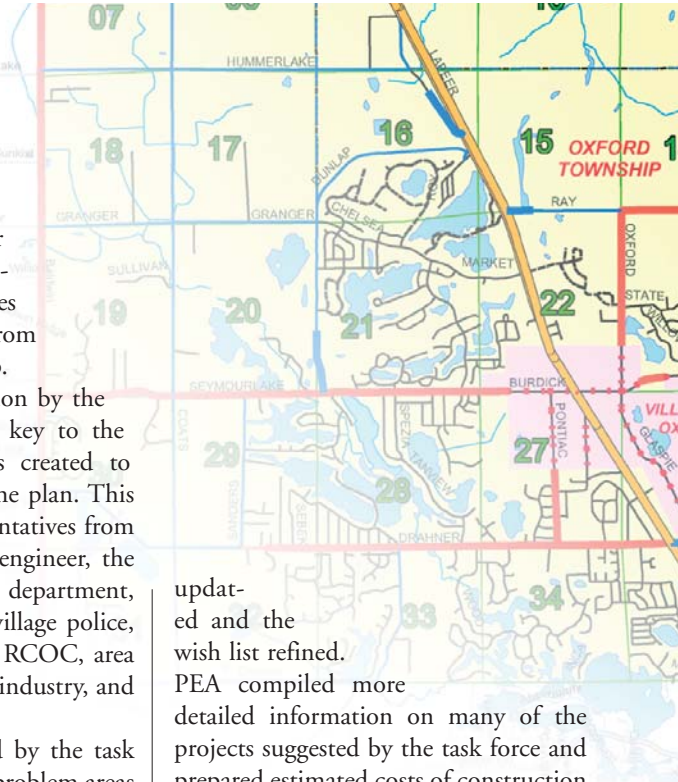
the township was inventoried. The surface type of streets within the community were recorded to function as the framework for the plan. Hundreds of digital photos and over ten miles of videos were obtained from streets within the township.

After careful consideration by the ORC of the stakeholders key to the process, a task force was created to guide the preparation of the plan. This task force included representatives from the ORC, the township engineer, the township planner, the fire department, the township sheriff, the village police, the planning commission, RCOC, area schools, the gravel mining industry, and a developer.

Surveys were completed by the task force and used to identify problem areas and develop short and long range plans for the controlled improvement and expansion of Oxford Township’s road system. These surveys along with roadway projects provided by the ORC and the RCOC were used to develop a preliminary list of projects and a project map. The surveys were also used to assign preliminary priorities and refine specific improvements to address the current and future needs and desires of the stakeholders.

At the first meeting of the task force in October 2003, preliminary maps, information, and an initial project wish list were discussed. Information was conveyed and discussion spirited through the use of an interactive GIS that provided access to recent photographs and video footage of road segments under discussion. The task force considered specific needs of the community, identified problem areas, and enhanced the wish list of future improvements to the road system in an effort to serve the residents of Oxford Township and address their own needs as stakeholders in the community. The resultant wish list identified many types of projects including paving/surface upgrades, future roads, drainage improvements, bridge widenings, intersection geometric upgrades, and more.

Based on discussions from the first meeting, the preliminary maps were



updated and the wish list refined. PEA compiled more detailed information on many of the projects suggested by the task force and prepared estimated costs of construction for each project, where practical. The updated maps and wish list of projects were presented and discussed at the second meeting of the task force in January 2004. The focus of this meeting was to further refine the project list, but more importantly, to begin effectively prioritizing the list based on the stakeholders understanding of community needs now and into the future. PEA presented specific project information on many of the over 40 projects on the wish list in an effort to inform the stakeholders. These factors included project type, historical priority established by township, previous survey responses from stakeholders, safety/crash concerns, segment jurisdiction and function, current RCOC plans, federal aid designations, average daily traffic, conceptual cost, and conceptual cost per ADT. Significant discussion was stimulated among the task force members for each project concerning their understanding of needs of the community and their own stakeholder concerns.

After these projects were presented and discussed, the task force participated in a group voting exercise in an effort to begin formally prioritizing the list of projects. In this process, each stakeholder was given 20 “votes.” The votes were actually stickers of differing colors. Four colors were used with differing point values for each color.

Each stakeholder was given five stickers of each color for casting votes. The projects that they identified to be highest priority were given red stars (ten points). Projects of lowest priority to the stakeholder, but warranting points nonetheless, were given green stickers (one point).

Following the meeting, PEA compiled all votes cast and the corresponding “score,” or total points, for each project was calculated. Projects were then prioritized according to the score received. Based on this information the map of prioritized projects was refined to indicate high, medium, and low priority projects.

The roads master plan process has encouraged the input of the public at large through various forms of communication, including a website, media coverage, and mailings. The website, which included the roads master plan, was periodically updated as information was received and as changes were implemented based on input from the task force.

The maps and project priority list were presented at the first public hearing of the roads master plan in March 2004 when formal comments were obtained and documented. Notice of the public hearing was published by the local media and at township offices. In addition, the public hearing was televised by Oxford community television. Furthermore, information was provided to all citizens who requested information.

## Interactive GIS Maps

Six interactive GIS maps generated using ArcGIS (ESRI, [www.govengr.com/esri](http://www.govengr.com/esri)) are part of the roads master plan:

**ROAD JURISDICTIONS (FIGURE 1)**—paved county primary, gravel county primary, paved county local, gravel county local, natural beauty, local, and state highways.

**ROAD SURFACE TYPES (FIGURE 2)**—asphalt, concrete, and gravel road surfaces within the township.

**FUTURE DESIRED RIGHT-OF-WAYS (FIGURE 3)**—60-, 66-, 86-, and 120-ft rights-of-way throughout the township.

**PROJECT LOCATION MAP (FIGURE 4)**—high, medium, and low priority

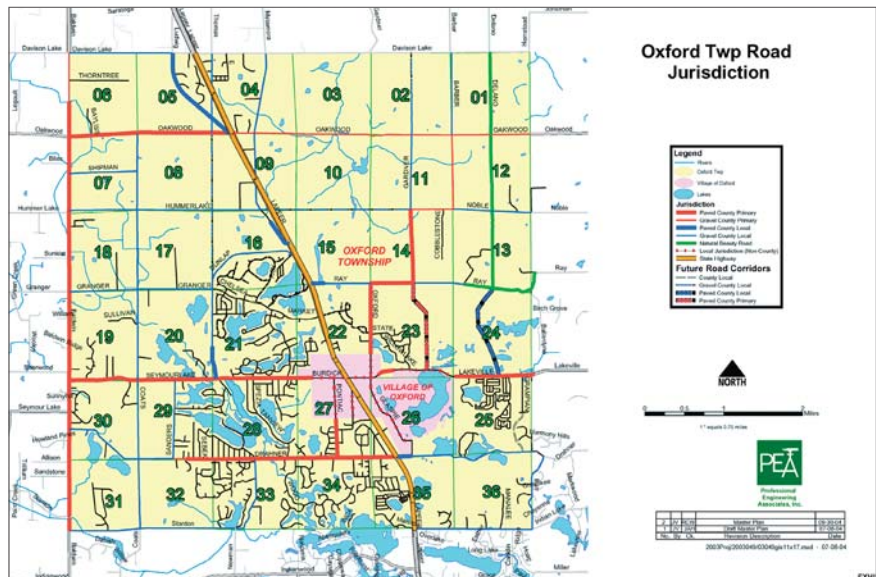


Figure 1. Road Jurisdictions

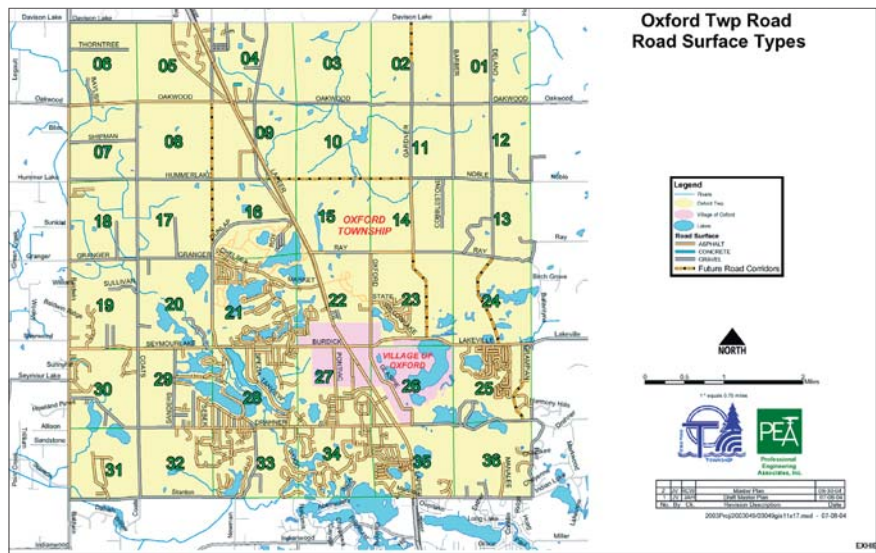


Figure 2. Road Surface Types

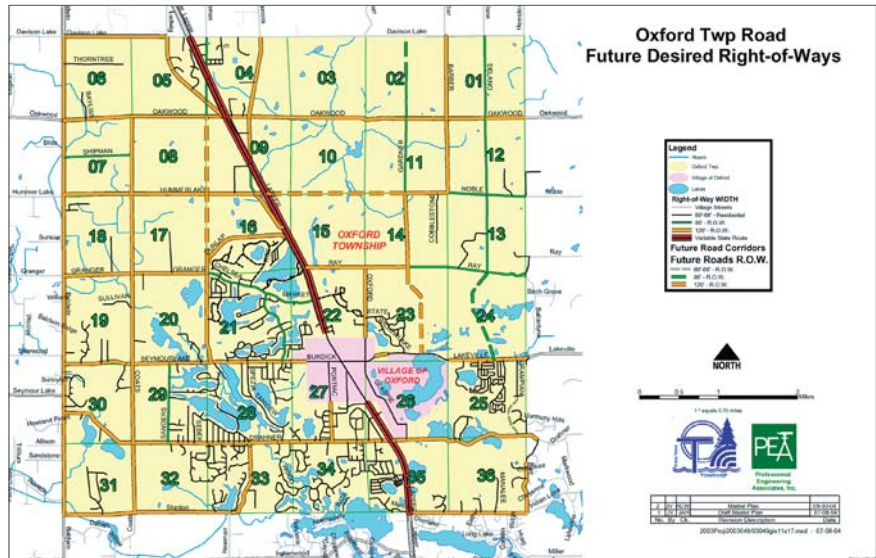


Figure 3. Future Desired Right-of-Ways

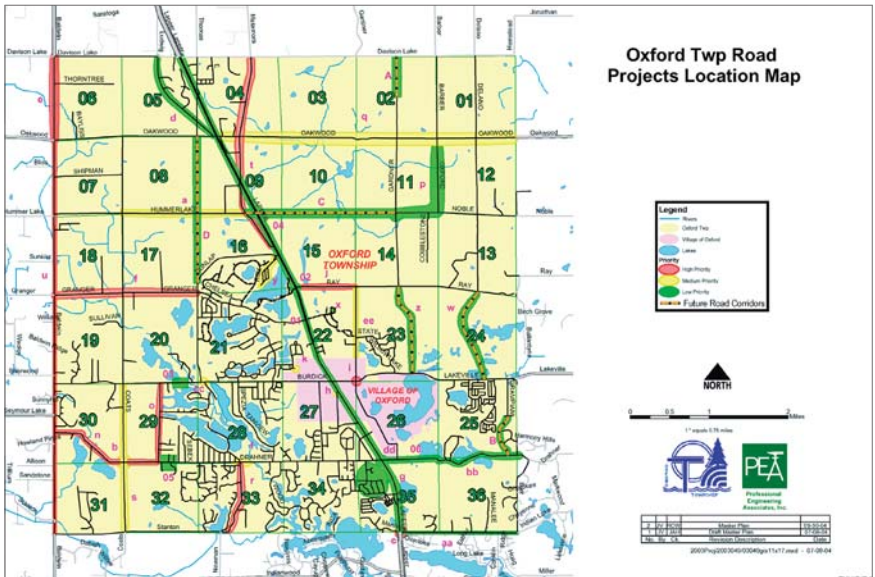


Figure 4. Projects Location Map

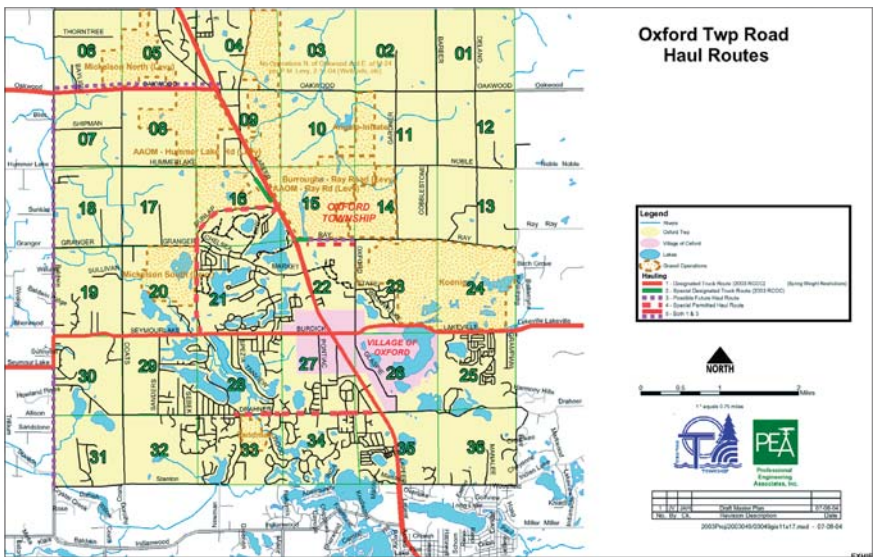


Figure 5. Haul Routes

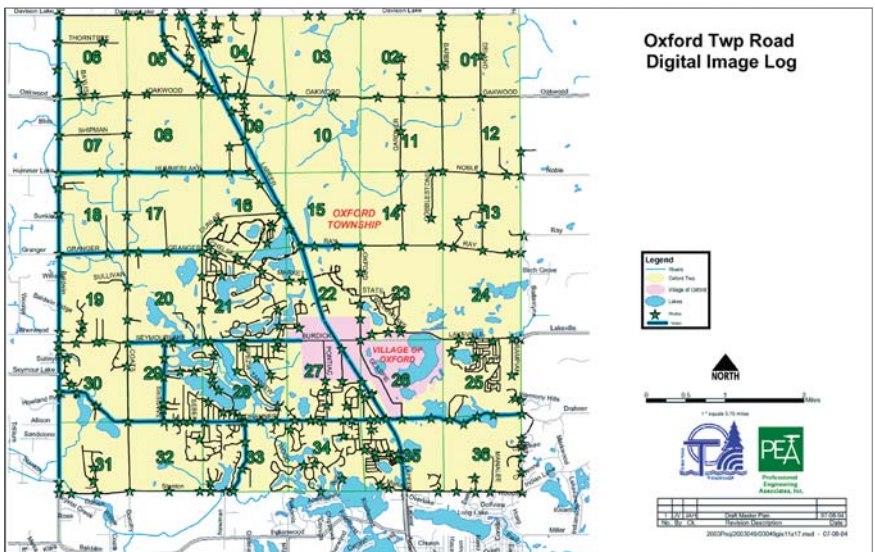


Figure 6. Digital Image Log

projects as set forth by the roads task force.

**HAUL ROUTES (FIGURE 5)**—gravel operations, designated truck routes, special designated truck routes, and special permitted haul routes. This map may be used by the township to develop a haul route ordinance.

**DIGITAL IMAGE LOG (FIGURE 6)**—the locations of hundreds of digital photos and over ten miles of videos of streets within the township.

Several of the projects prioritized by the roads task force have either been completed in the last couple of years or are currently under construction or near construction. They include:

- East Burdick at Gaspie signal installation and pavement widening—project completed.
- Market Street Extension—partially completed as a part of private retail development.
- 85 Brabb drainage improvement—currently under construction.
- M-24, North Village Limits to Ray Road signals and median improvements—parts are currently under construction by private development interests.
- Seymore Lake Road West of Granger bridge replacement—currently under construction.

The roads master plan, prepared with significant input from the roads task force, truly represents the needs of various stakeholders within and around Oxford Township. The list of projects developed and prioritized by the task force will continue to serve as a guide and a resource for community officials to utilize with confidence in the years ahead when making important decisions concerning the transportation needs of the community. Further, it reinforces a cooperative, harmonious relationship with the Road Commission for Oakland County, the agency through which much of the public funding for the improvements will be channeled.



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