STEUBEN COUNTY
HIGHWAY DEPARTMENT

Year-in-Review
2015
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Prepared By: ____________________________   Date: ____________

Jennifer L. Sharkey, PE
Steuben County Highway Engineer
Introduction
The Steuben County Highway Department is located in Angola, Indiana on County Road North 200 West. There are 28 employees including 1 Superintendent, 1 Engineer, 1 Clerk, 2 Mechanics, 1 Sign Technician, 12 Equipment Operators, 7 Truck Drivers, 1 Laborer, 1 Part-Time Operator, and 1 Part-Time Clerk. Responsibilities of the highway department can be separated into two categories; engineering and maintenance.

Engineering Duties
- Long-term transportation planning
- Design of bridge and road projects
- Construction, inspection, and management of both in-house and federally-funded projects
- Traffic management and count analysis
- Data and project management
- Development review

Maintenance Duties
- Road paving and chip sealing
- Road patching
- Gravel road grading
- Ditching and berming
- Bridge maintenance
- Snow plowing
- Roadside mowing
- Drainage control

These duties are performed to maintain and improve county infrastructure (644 miles of roadway) which includes:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Paved Roadway Miles</td>
<td>390</td>
</tr>
<tr>
<td>Total Chip Seal Roadway Miles</td>
<td>31</td>
</tr>
<tr>
<td>Total Gravel Roadway Miles</td>
<td>223</td>
</tr>
<tr>
<td>Total Large Bridge Structures (over 20 feet)</td>
<td>49</td>
</tr>
<tr>
<td>Total Small Bridge Structures (under 20 feet)</td>
<td>13</td>
</tr>
<tr>
<td>Total Large Culverts (over 4 feet &amp; under 20 feet)</td>
<td>14</td>
</tr>
</tbody>
</table>
**Funding**

The Steuben County Highway Department receives funds from several local, state, and federal sources for both maintenance and project activities as well as day-to-day operations. The funds used include:

**Motor Vehicle Highway (MVH)**

These funds are administered and distributed by the State (IC 8-14-1). This is the largest source of state aid for road construction and maintenance activities. Revenue comes from a variety of sources with two-thirds coming from motor fuel taxes. Funds are distributed to all local government agencies within the State of Indiana based on a specific distribution formula. MVH funds are used for maintenance activities and associated expenses.

**Local Road and Street (LRS)**

Similar to MVH funds, local road and street funds are administered and distributed by the State using a specific formula (IC 8-14-2). These monies are collected from gas tax revenue and are used for maintenance activities and supplies.

**Cumulative Bridge Funds**

These funds are collected locally as part of the Steuben County property tax and are used for bridge maintenance and construction activities (IC 8-16-3).

**County Economic Development Income Tax (CEDIT)**

These funds are collected locally as part of the Steuben County income tax and are used for expenses related to highway equipment and maintenance (IC 6-3.5-7).

**Major Moves Construction**

These funds were generated based on the lease of the Indiana Toll Road in 2005. Funds were distributed by the State and are used for county projects related to infrastructure and economic development (IC 8-14-14).

**Alternative Funding Sources**

The Local Option Highway User Tax (LOHUT) was discussed in early 2015. It was decided to provide the Highway Department with equivalent funds from Major Moves to determine if it was feasible to use the approximate $900,000 additional funds that would have been collected via LOHUT in an effective and efficient manner. The results of this test run was extremely positive with 62 miles of road work completed and a recovery rate of 68% realized. It is anticipated to revisit the adoption of LOHUT in early 2016 based on these results and support from local agencies.
Projects
There are many projects that are on-going and planned for the upcoming year. A brief outline of each project is provided with a more detailed plan of maintenance and construction activities for the next five years outlined in the Steuben County Asset Management Plan which has a first draft available for review. Another document, the Steuben County Highway Department Planning Guide and Reference Document, was distributed in January of 2015 to inform the Commissioners and Council on the operational management of the Highway Department. A review of that document will take place in 2016 and will be distributed accordingly in 2017.

Federally-Funded Projects

**Steuben County Trail – Phase I (Des No. 0401070)**

*Location:* CR 200 N to CR 300 N along SR 127  
*Designed & Inspected By:* Butler, Fairman & Seufert  
* Contractor:* E&B Paving  
*Construction:* Summer 2014 - Winter 2015  
*Estimated Cost:* $2.7 million  
*Funded By:* Federal Funds 80% Local Funds 20%

This is an asphalt paved shared-use path approximately twelve feet in width with two foot stone shoulders. The total length of Phase I is approximately 1.2 miles with features such as a small trailhead at the northern termini, three modular block retaining walls, and one cut wall. Other safety features include the a HAWK signal for pedestrian crossing along SR 127, signalized crossings at the Menards entrance and CR 200 N, and a wooden barrier rail.
**CR 200 N and CR 200 W Intersection Improvements (Des No. 0810104)**

**Location:** Intersection of CR 200 N and CR 200 W

**Designed By:** Ken Herceg & Associates (now Donohue/Herceg)

**Inspected By:** A&Z Engineering, LLC

**Contractor:** Brooks Construction

**Construction:** Summer 2015 - Fall 2015

**Estimated Cost:** $1.1 million

**Funded By:**
- Federal Funds 80%
- Local Funds 20%
  (Matching Credits)

This project included the addition of a traffic signal at the intersection of CR 200 W and CR 200 N. Also, dedicated turn lanes were added on CR 200 N and CR 200 W with sight distance also improved along the intersection.
Countywide National Bridge Inspection and Inventory Program (Des No. 1382113)

Location: All areas of Steuben County

Inspected By: American Structurepoint

Contractor: Not Applicable

Phase I Inspections: Spring 2014  Phase II Inspections: Fall 2015

Estimated Cost: $75,950  Funded By: Federal Funds 80%

Local Funds 20%

This is a four year contract to inspect every Steuben County bridge structure over twenty feet in length every two years during the contract length. The new compliance month for bridge inspections is October with the next inspection due in 2017. A complete bridge inspection report is available at the Highway Department.

Locally-Funded Projects

Baker Road Improvements

Location: Old US 27 east to N. Van Guilder Rd.

Designed & Inspected By: Steuben County Highway Department

Contractor: E&B Paving

Construction: Summer 2015 - Fall 2015

Estimated Cost: $107,000  Funded By: Local Funds 100%

Improvements included milling approximately 1.5” of chip seal surface and replacing with 1.5” of #11 asphalt surface binder material. This was done along the entire width of the pavement which includes two 12-foot travel lanes and two 10-foot paved shoulders for a length of approximately 1 mile. A modified asphalt binder was used to better protect against rutting from heavier truck traffic. SCHD provided traffic control and material hauling for the project.
Pavement Preservation and Upgrades

The Steuben County Highway Department conducted several pavement preservation and upgrade activities in-house resulting in a recovery rate of 68%. Activities performed include:

- **Hot Mix Asphalt**: 9.42 miles
- **Chip Seal**: 4.32 miles
- **Double Chip Seal**: 14.49 miles
- **Sand Seal**: 10.32 miles
- **Full Depth Reclamation**: 3 miles
- **Extensive Patching**: 8.82 miles

Funds used to complete 62.07 miles of road work included MVH, LRS, Major Moves, and CEDIT totaling $1,643,225.

The 2016 budget has appropriated approximately $730,000 for road work. The Highway Department has completed a PASER rating of each paved road and will be prioritizing roadways and treatment methods to best utilize the funds available. Additionally, SCHD will be constructing ½ mile of new roadway near the Town of Orland estimated at $510,000 (Maple Street Extension) funded through Major Moves. A reimbursement of approximately $175,000 is anticipated from INDOT for work completed along SR 120.

Pavement Markings

The County had the contractor conduct approximately 36 miles of striping in 2015 at a cost of $16,000. There are three main types of pavement markings; thermoplastic, multi-component, and paint. The Highway Department uses paint material due to cost and ease of application. To properly apply paint pavement markings, the ambient air temperature must be at least 40 degrees and the pavement must be dry. Currently, the County stripes more roadway facilities than is mandated by state regulations. This is to provide safe routes for motorists during poor weather conditions.
Traffic & Asset Management

Several traffic ordinances and traffic studies were conducted by the County Highway Engineer. These included requests for reduction in speed limits and addition of regulatory and/or warning signs. Based on these studies and ordinances, several signs were installed. A summary of all sign work completed by the highway department as of October 15, 2015 is shown below.

<table>
<thead>
<tr>
<th>2015 New, Replaced, Repaired, or Inspected Sign Totals (By Type)</th>
<th>2015 New, Replaced, Repaired, or Inspected Sign Totals (By Reason)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory</td>
<td>Condition</td>
</tr>
<tr>
<td>Warning</td>
<td>Obsolete</td>
</tr>
<tr>
<td>Guide</td>
<td>Safety</td>
</tr>
<tr>
<td>Object Markers</td>
<td>Routine Inspection</td>
</tr>
<tr>
<td>School</td>
<td>Vandalized</td>
</tr>
<tr>
<td>Total</td>
<td>Missing</td>
</tr>
<tr>
<td>134</td>
<td>Accident</td>
</tr>
<tr>
<td></td>
<td>Ordinance</td>
</tr>
<tr>
<td></td>
<td>Total</td>
</tr>
</tbody>
</table>

Sign Database

This database is updated by the Highway Sign Technician to keep an accurate inventory of all signs owned and maintained by the Steuben County Highway Department. A complete sign inventory with GPS coordinates shall be coordinated by the Highway Engineer and GIS Coordinator utilizing part-time labor. With federal regulations on sign reflectivity and management, this proposed database will aid highway personnel to monitor age, type, installation date, location, and reflectivity of all active signs as well as monitor the frequency and reason for sign replacement (i.e. safety, theft, condition, etc). Funds to complete this task are appropriated from Major Moves.
Bridge Database

The Indiana Bridge Inspection Application System (BIAS) is used to store information on county bridges from past and current bridge inspection and inventory reports. Bridges are evaluated on several criteria that yield a sufficiency rating (100 = new bridge construction, 0 = closed bridge). A bridge with a rating less than 80 is eligible to apply for federal funding assistance. Based on the results of the biennial reports and program funding, priorities are established and maintenance plans are coordinated to address bridge issues. These priorities are outlined in the 10 Year Bridge Maintenance Plan prepared by the Highway Engineer. In 2015, Steuben County fell from first place to third place with respect to the highest average sufficiency rating of bridges in the state. The County spent approximately $107,000 on bridge maintenance in 2015 and plans to spend approximately $266,000 on bridge maintenance activities in 2016, should funds be appropriated. At this time, only $80,000 has been appropriated for bridge maintenance purposes from the Cumulative Bridge Fund.

Roadway Database

This database contains basic information for each roadway segment in the County including segment identification, right-of-way width, surface width, surface material type, length of segment, location of segment, and direction of roadway. The Highway Engineer began a survey of roadway conditions using the PASER rating system in 2014 and completed all asphalt and chip seal roads in the county. These ratings have been used to compile and prioritize roadway maintenance needs in the Steuben County Asset Management Plan to assist with future planning of roadway projects and maintenance activities.
**Developments**

When a new subdivision is being developed in Steuben County, the developer must receive approval from various departments including the Highway Department and the Plan Commission. Should the developer desire to have the subdivision accepted into the County road network, County standards and specifications must be followed. The Steuben County Code of Ordinances provides typical sections and guidelines for construction. Upon completion, a formal request must be made by the developer to have the roadway accepted into the County road network. The Highway Superintendent and Highway Engineer will inspect the finished product and make a recommendation to the County Commissioners of acceptance or provide suggestions for improvements for future acceptance.

In 2015, no additional subdivisions or roadway facilities were requested/accepted into the county roadway network. If roadways are accepted and added to our network, the Indiana Department of Transportation Road Inventory Supervisor is to be notified via request of mileage certification change for Steuben County. Since funding is based on number of lane miles of roadway, it is important that our County inventory is accurate.

**County Highway Permits**

Work that is planned within County right-of-way requires a permit for construction and is issued by the Steuben County Highway Department. Some work requires the contractor to submit a bond to the County as well as a fee for the permit. Once work is completed, the contractor shall notify the County for a final inspection of the work and refund of the permit fee, if applicable. The following permits were issued in 2015 as of November 24th:

<table>
<thead>
<tr>
<th>Permit</th>
<th>Count</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Entrances (No Fee)</td>
<td>3</td>
<td>$0</td>
</tr>
<tr>
<td>Residential Drives ($50)</td>
<td>34</td>
<td>$2,300</td>
</tr>
<tr>
<td>Commercial Drives ($100)</td>
<td>2</td>
<td>$200</td>
</tr>
<tr>
<td>Utility Work ($500 Refundable)</td>
<td>48</td>
<td>$0</td>
</tr>
<tr>
<td>Other or Special Use (No Fee)</td>
<td>5</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Permits</strong></td>
<td>92</td>
<td><strong>$2,500</strong></td>
</tr>
</tbody>
</table>

Revenues from these permits are retained in the Motor Vehicle Highway fund to be used for day-to-day operations of the Highway Department.
A new permit manual for county roads was approved by the County Commissioners on August 17, 2015 via Ordinance #872. The purpose of the manual is to outline the permitting process of the county highway department and provide clear guidance for each permit type. Permit forms, types of permits, and fees were adjusted in this manual and official implementation of the document has yet to be conducted. Training of staff on new procedures is planned for early 2016 with full implementation of the modified permitting process to be done mid-year 2016.

**Winter Operations**

Depending on the weather, winter operations can be a challenge. Typical activities during the winter months include snow plowing, snow removal, spreading of material (salt/sand mixture), cleaning out drainage structures, and patching potholes. Bitter cold temperatures and heavy precipitation resulted in an unusually thick layer of frost which created a sponge-like subbase for roadway beds in spring 2015. When heavy traffic began using these roads in early spring before the frost was out, extreme pavement degradation and structural damage occurred on many county maintained roads. The highway department spent just shy of $200,000 in extensive patching road work to address these damaged roads.

**Winter Preparations**

To prepare for the winter months ahead, the Highway Department has taken many proactive steps including advertising and awarding salt bids early, ordering salt in early November (approximately 400 tons), hauling ice control sand and preparing salt/sand mixture for quick accessibility (75 tons of salt/sand mixed in barn).

Additionally, the Highway Superintendent and Highway Engineer had the Local Technical Assistance Program (LTAP) conduct Snowplow Training for the staff on November 23, 2015. The presenter was the Assistant Superintendent for Kosciusko County and spoke on many topics including safety gear, snowplow techniques, and best practices in winter maintenance.

After the pilot program in 2014, the County Highway plans to continue the use of calcium chloride with Boost with our salt and sand mixture to accelerate the rate of implementation of the mixture on the ice and snow covered roads. Also, use of this product decreases the amount of salt and sand needed to clear our county roadways. This product is an organic based, liquid pre-wetting agent that can be used as an anti-icer (pre-treatment) or deicer (post-treatment) product. The Highway Department has developed a spray unit for this application that will provide better distribution of the product. The Highway Engineer has encouraged use of this product on bridge decks to remove the need of applying salt on bridges which accelerate the rate of deterioration.
Summary

The Steuben County Highway Department continues to strive to provide safe, accessible, and well-maintained public infrastructure for the community. With limited budgets, manpower, and equipment, it is essential that the Highway Department make the most of its resources and efficiently and effectively operate daily activities. Continual evaluation and improvements are made throughout the year to better serve the County government and its residents.