STEUBEN COUNTY
HIGHWAY DEPARTMENT

Year-in-Review

2014
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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 currently 27 employees including 1 Superintendent, 1 Engineer, 1 Clerk, 2 Mechanics, 1 Sign Technician, 11 Equipment Operators, 7 Truck Drivers, 2 Laborers, and 1 Part-Time Operator. 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 (approximately 645 miles of roadway) which includes:

- Total Paved Roadway Miles: 390
- Total Chip Seal Roadway Miles: 31
- Total Gravel Roadway Miles: 223
- Total Large Bridge Structures (over 20 feet): 49
- Total Small Bridge Structures (under 20 feet): 12
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 by Governor Mitch Daniels in 2005. Funds were distributed by the State and are used for county projects related to infrastructure and economic development (IC 8-14-14).

**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 (5) years outlined in the *Steuben County Asset Management Plan* which is currently being developed. Another document, the *Steuben County Highway Department Planning Guide and Reference Document*, is also underway and will be distributed in 2015 to update the Commissioners and Council on the operational management of the Highway Department.
Federally-Funded Projects

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

*Location:* CR 200 N north to CR 300 N along SR 127

*Designed By:* E&B Paving

<table>
<thead>
<tr>
<th>Estimated Construction</th>
<th>Estimated Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin Date: Summer 2014</td>
<td>End Date: Summer 2015</td>
</tr>
</tbody>
</table>

*Estimated Cost:* $2 million 

*Funded By:* Federal Funds 80%  
Local Funds 20%

This is an asphalt paved shared-use path approximately twelve (12) feet in width with two (2) 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 and a modular block retaining wall along the northeastern section.

**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)

*Contractor:* To be determined (Bid date in February 2015)

<table>
<thead>
<tr>
<th>Estimated Construction</th>
<th>Estimated Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin Date: Summer 2015</td>
<td>End Date: Fall 2015</td>
</tr>
</tbody>
</table>

*Estimated Cost:* $1.1 million

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

This project includes the addition of a traffic signal at the intersection of CR 200 W and CR 200 N. Also, dedicated turn lanes shall be added on CR 200 N and CR 200 W with sight distance also being 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**  
*Date:* Spring 2014  
**Phase II Inspections**  
*Date:* Spring 2016  

*Estimated Cost:* $75,950  
*Funded By:* Federal Funds 80%  
Local Funds 20%

This is a four (4) year contract where every Steuben County bridge structure over twenty (20) feet in length is inspected and inventoried two times (every two (2) years) during the contract length. 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 By:* Steuben County Highway Department  
*Contractor:* To be determined (Bid date in Spring 2015)  

*Estimated Construction*  
*Begin Date:* Summer 2015  
*Estimated Completion*  
*End Date:* Fall 2015  

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

The proposed improvements include milling off approximately 1.5” of chip seal surface and replacing with 1.5” of #11 asphalt surface binder material. This shall be done along the entire width of the pavement which includes two 12-foot travel lanes and two 10-foot paved shoulders and for a length of approximately 1 mile.
Pavement Preservation and Upgrades

The Steuben County Highway Department conducts several pavement preservation and upgrade activities in-house. In 2014, the department got a late start to maintenance activities due to the long winter season and unexpected passing of our Highway Superintendent. However, even with these unusual circumstances, the Highway Department completed the following pavement activities:

- Hot Mix Asphalt: 4 miles
- Chip and Seal: 8.5 miles
- Sand Seal: 15 miles
- Wedge & Level / Blowouts: 1045 tons

Funds used to complete this work of 27.5 miles included MVH, LR&S, Major Moves, and CEDIT totaling approximately $790,000.

It is proposed to complete approximately 25 miles of road work in 2015 totaling approximately $900,000 due to the proposed construction of 1/2 mile of new roadway near the Town of Orland estimated at $182,500.

Pavement Markings

A hot topic of discussion is the pavement markings activities for this year. Due to the late start of paving operations and increased demand for pavement marking services, the third-party contractor was not able to perform striping duties for Steuben County in 2014. The Highway Engineer informed the vendor in September that approximately 30.5 miles of striping was desired for the County in 2014. Due to the timing of this notification, the vendor was unable to fulfill this request as weather conditions and backlog volume delayed their services. It is anticipated that Steuben County will be their first priority in 2015 once weather and pavement conditions allow for such activity. For pavement markings to be applied the ambient air temperature must be at least 40 degrees and the pavement must be dry. Request for pavement marking work next year will be communicated early in the construction season to ensure work will be done within the calendar year.
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 30, 2014 is shown below.

<table>
<thead>
<tr>
<th>2014 New, Replaced, Repaired, or Inspected Sign Totals (By Type)</th>
<th>2014 New, Replaced, Repaired, or Inspected Sign Totals (By Reason)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory</td>
<td>150</td>
</tr>
<tr>
<td>Warning</td>
<td>80</td>
</tr>
<tr>
<td>Guide</td>
<td>140</td>
</tr>
<tr>
<td>Object Markers</td>
<td>5</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>376</td>
</tr>
<tr>
<td>Condition</td>
<td>170</td>
</tr>
<tr>
<td>Obsolete</td>
<td>36</td>
</tr>
<tr>
<td>Safety</td>
<td>51</td>
</tr>
<tr>
<td>Routine Inspection</td>
<td>26</td>
</tr>
<tr>
<td>Vandalized</td>
<td>26</td>
</tr>
<tr>
<td>Missing</td>
<td>27</td>
</tr>
<tr>
<td>Accident</td>
<td>37</td>
</tr>
<tr>
<td>Ordinance</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>376</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. All regulatory signs that were engineer grade have been replaced with high prismatic sign surfaces to provide additional reflectivity for nighttime driving. A complete sign inventory with GPS coordinates shall be coordinated by the Highway Engineer utilizing part-time help. With federal regulations on sign reflectivity and management, this proposed database will aid highway personnel to monitor type, age, 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 Funds.
**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. Based on the results of the biennial reports and program funding, priorities are established and maintenance plans are coordinated to address bridge issues. In 2014, Steuben County had the best bridges in the state which is attributed to the routine maintenance and care that is provided to these structures on a regular basis. The County spent approximately $52,000 on bridge maintenance in 2013 and plans to spend approximately $115,000 in bridge maintenance activities in 2015.

**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. In the summer of 2014, the Highway Engineer began a survey of roadway conditions using the PASER rating system and completed all asphalt roads in the southeast corner of the county. It is planned to finish rating all asphalt and chip seal roads in 2015 and compile and prioritize this data 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 2014, there were no additional subdivisions or roadway facilities 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 2014 as of November 25th:

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Quantity</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>$1,700</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><strong>92</strong></td>
<td><strong>$1,900</strong></td>
</tr>
</tbody>
</table>

Revenues from these permits are placed in the Motor Vehicle Highway fund to be used for day-to-day operations of the Highway Department.

**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. During the first few months of 2014, severe winter conditions persisted which resulted in long hours, extreme wear and tear on county equipment, excessive use of material and resources, and great challenges for snow removal. Approximately half of the yearly budget for fuel was used in the first month of 2014 and the overtime budget for labor was depleted during this time as well. Ordering material became a challenge as salt became scarce and suppliers were unable to deliver orders. Bitter cold temperatures and heavy precipitation resulted in an excessive number of potholes and extreme pavement degradation on many county maintained 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 500 tons), hauling ice control sand and preparing salt/sand mixture for quick accessibility, and hiring an additional mechanic to catch up on maintenance work and get trucks repaired and prepped for the upcoming winter weather.

Additionally, the Highway Superintendent and Highway Engineer met with the Emergency Management Director to determine appropriate winter operational procedures for radio traffic and snow routes. The Highway Superintendent prepared a snow routes map to document the typical travel pattern for each snowplow truck for better communication with emergency services.

Additional investigation is commencing on the use of Beet Heet or a similar product to be used in conjunction with our salt and sand mixture to accelerate the rate of implementation of the mixture on the ice and snow and decreasing 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 Superintendent has been collecting information and conducting research on this product.

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.