

FINAL REPORT

ECONOMIC IMPACTS OF PROJECTED NIPSCO TRANSMISSION & DISTRIBUTION EXPENDITURES, 2014-2020

Indiana and US Impacts from NIPSCO's
T&D Construction Expenditures

BLACK & VEATCH PROJECT NO. 177935

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1 Executive Summary

Black & Veatch performed a study for Northern Indiana Public Service Company (NIPSCO) to evaluate the economic impact of the projected \$1.07 billion (nominal dollars) in transmission and distribution (T&D) construction expenditures during the seven year, 2014 through 2020 period. Impacts from operation and maintenance (O&M) expenditures associated with these new investments are not part of the analysis.

This report estimates the economic impacts of these expenditures for the state of Indiana, for the remainder of the United States (US), and for the combined Indiana and remainder of the US area¹. The IMPLAN (Impact analysis for PLANning) impact analysis model was used in the study to estimate project benefits in the areas of employment, income, value added, wages, federal taxes, and state and local taxes. IMPLAN is widely used in the electric industry.

The total capital expenditures of \$1.07 billion evaluated in the study are divided into transmission, distribution and overhead and economic development categories and into individual projects within these categories. The projects included in the analysis are shown in Table ES-1 and total \$314.2 million for transmission projects, \$544.5 million for distribution projects, and \$214.0 million in overhead and economic development.

Table ES-1 NIPSCO Transmission and Distribution Investment Expenditures, 2014-2020
(Expenditures are in Nominal Dollars)

| TRANSMISSION PROJECTS | | DISTRIBUTION PROJECTS | | OVERHEAD AND ECONOMIC DEVELOPMENT | |
|--|-----------------|-----------------------------|-----------------|-----------------------------------|-----------------|
| Transmission Lines: | \$119.9 million | 4kV Line | \$15.1 million | Overhead | \$144.0 million |
| ■ 138kV New/Rebuild Line | | 4kV Substation | \$2.0 million | | |
| ■ 69kV or 34kV New/Rebuild Line | | | | | |
| ■ 69kV or 34kV Line Switch Replacement | | | | | |
| ■ Line Engineering | | | | | |
| Transmission Substation: | \$194.2 million | Underground Cable | \$119.8 million | | |
| ■ New/Rebuild Substation | | Distribution Lines: | \$282.3 million | Economic Development | \$70.0 million |
| ■ Transformers | | ■ New/Rebuild Line | | | |
| ■ Relay Upgrades | | ■ Distributions Automation | | | |
| ■ Breaker Upgrades | | ■ Line Engineering | | | |
| ■ Batteries | | | | | |
| ■ Transformer Bushings | | ■ Distribution Substations: | \$125.3 million | | |
| ■ Arrestors | | ■ New/ rebuild Substation | | | |
| ■ Disconnect Replacements | | ■ Transformers | | | |
| ■ Substation Engineering | | | | | |

¹ The "remainder of the US" in this study is comprised of the 50 states plus Washington D.C., minus Indiana.

| TRANSMISSION PROJECTS | | DISTRIBUTION PROJECTS | | OVERHEAD AND ECONOMIC DEVELOPMENT | |
|---|------------------------|--|------------------------|--|------------------------|
| | | <ul style="list-style-type: none"> ■ Switchgear ■ Relay Upgrades ■ Breaker/ Recloser ■ Upgrades ■ Batteries ■ Arrestors ■ Feeder Cable ■ Replacement ■ Substation Engineering | | | |
| Total Transmission Project Expenditures: 2014-2020 | \$314.2 million | Total Distribution Project Expenditures: 2014-2020 | \$544.5 million | Total Overhead and Economic Development Expenditures: 2014-2020 | \$214.0 million |

The analysis further divided construction expenditures according to the assumed industries from which direct project purchases of materials, equipment, and services would be made for the two geographical models (Indiana and the remainder of the US). The IMPLAN models were then run and direct, indirect, and induced impacts were derived. Direct impacts include those directly associated with NIPSCO expenditures; indirect impacts include those caused by the purchase of inputs by firms providing the goods and services to NIPSCO; and induced impacts include those arising from the spending of wages by labor.

The results of the economic impact estimates are shown in Table ES-2 for Indiana, the remainder of the US, and for the US as a whole. These impacts include:

- Total US impacts of 14,719 jobs, comprised of 8,714 jobs created or supported in Indiana and 6,005 jobs created or supported in the rest of the US. These employment numbers should be viewed as total job-years supported or created by expenditures during the study period.²
 - These employment figures equate to 8.5 jobs created or supported in Indiana per \$1 million dollars spent and 14.3 jobs created or supported within the total US per \$1 million dollars spent.
- Total US impacts of nearly \$1.1 billion in labor income, of which \$655.8 million in labor income is expected to occur in Indiana. Labor income includes all forms of employment income, including employee compensation (wages and benefits) and proprietor income. The average wage at the national level is projected to be \$72,221 and \$75,262 per job in Indiana.
- Total US impacts of nearly \$1.57 billion in value-added (GDP), of which approximately \$899.2 million is projected to occur in Indiana. Value added for a firm is their sales revenue less the costs of goods and services purchased. The sum of value added in all industries is the gross domestic product (GDP),

² IMPLAN's glossary of terms defines a "job" as "the annual average of monthly jobs in that industry" but also points out that this can be "1 job lasting 12 months" or "2 jobs lasting 6 months each" or "3 jobs lasting 4 months each" and also explains that "a job can be either full-time or part-time."

or the total value of all final goods and services produced in the nation.³ Total US impacts of more than \$2.31 billion in total economic output, which is the total value of production from all industries impacted by the investment expenditures. Of this total, more than \$1.09 billion will occur in Indiana.

Total US impacts of approximately \$ 106.9 million in state and local taxes. Of this total, approximately \$55.7 million in Indiana state and local taxes are projected. At the national level, a total of nearly \$136.5 million in federal taxes is projected, of which approximately \$54.0 million will be generated in Indiana.

Table ES-2 NIPSCO Construction Expenditure Impacts for Indiana, the Remainder of the US, and the US as a Whole

| IMPACT TYPE | EMPLOY- MENT | LABOR INCOME | VALUE ADDED | OUTPUT | STATE/ LOCAL TAXES | FEDERAL TAXES |
|---|-----------------|------------------------|------------------------|------------------------|--------------------------|----------------------|
| TOTAL INDIANA IMPACTS FROM NIPSCO T&D CONSTRUCTION EXPENDITURES, 2014-2020 | | | | | | |
| Direct Effect | 4,968 | \$496,850,914 | \$573,252,927 | \$619,560,486 | | |
| Indirect Effect | 178 | \$10,113,479 | \$57,529,999 | \$32,381,582 | | |
| Induced Effect | 3,569 | \$148,870,122 | \$268,437,719 | \$438,959,836 | | |
| Total Effect | 8,714 | \$655,834,514 | \$899,220,646 | \$1,090,901,906 | \$55,730,010 | \$53,984,327 |
| TOTAL IMPACTS FROM NIPSCO T&D CONSTRUCTION EXPENDITURES, REMAINDER OF US, 2014-2020 | | | | | | |
| Direct Effect | 1,428 | \$129,261,821 | \$183,799,685 | \$346,037,369 | | |
| Indirect Effect | 1,315 | \$97,131,087 | \$160,282,357 | \$318,536,902 | | |
| Induced Effect | 3,262 | \$180,800,087 | \$322,474,737 | \$559,132,096 | | |
| Total Effect | 6,005 | \$407,192,994 | \$666,556,779 | \$1,223,706,366 | \$51,199,326 | \$82,474,437 |
| TOTAL IMPACTS FROM NIPSCO T&D CONSTRUCTION AND EXPENDITURES, ALL OF US (INDIANA + REST OF US IMPACTS), 2014-2020 | | | | | | |
| Direct Effect | 6,396 | \$626,112,735 | \$757,052,612 | \$965,597,855 | | |
| Indirect Effect | 1,493 | \$107,244,566 | \$217,812,356 | \$350,918,484 | | |
| Induced Effect | 6,831 | \$329,670,209 | \$590,912,456 | \$998,091,932 | | |
| Total Effect | 14,719 | \$1,063,027,508 | \$1,565,777,425 | \$2,314,608,272 | \$106,929,336 | \$136,458,764 |

The cumulative impacts from 2014-2020 T&D investment expenditures can be presented according to the economic impacts arising from the expenditures made each year. These impacts are shown in Table ES-3. Consistent with the project expenditure pattern presented in Section 3, the economic impacts rise significantly after 2015 and generally are higher toward the end of the evaluation period as a result of inflation and planned expenditure patterns.

³ The IMPLAN glossary defines "value added" as "The difference between an industry's or an establishments total output and the cost of its intermediate inputs. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported)." As a simplified example, if a pipeline manufacturer purchased a steel plate for \$10,000 then transformed this into a pipeline segment that was then sold for \$50,000 then the value added would be \$40,000 (ignoring other intermediate inputs and their costs).

Table ES-3 Impacts Associated with Year-by-Year T&D Expenditure Impacts

| YEAR | EMPLOY- MENT | LABOR INCOME | VALUE ADDED | OUTPUT | STATE/LOCAL TAXES | FEDERAL TAXES |
|--|-----------------|-----------------|-----------------|------------------|----------------------|------------------|
| INDIANA IMPACTS ASSOCIATED WITH YEAR-BY-YEAR T&D EXPENDITURES | | | | | | |
| 2014 | 560 | \$40,111,928 | \$73,241,961 | \$72,107,501 | \$4,163,887 | \$3,917,138 |
| 2015 | 511 | \$36,834,346 | \$51,448,222 | \$65,267,691 | \$3,638,463 | \$3,510,408 |
| 2016 | 1,402 | \$103,751,570 | \$136,971,546 | \$169,529,026 | \$8,134,544 | \$8,099,017 |
| 2017 | 951 | \$70,828,088 | \$94,844,395 | \$117,930,043 | \$5,895,657 | \$5,840,955 |
| 2018 | 1,512 | \$114,137,532 | \$152,890,474 | \$188,328,510 | \$9,506,878 | \$9,252,729 |
| 2019 | 1,909 | \$145,938,600 | \$195,876,846 | \$240,005,346 | \$12,220,551 | \$11,718,252 |
| 2020 | 1,869 | \$144,232,449 | \$193,947,201 | \$237,733,788 | \$12,170,030 | \$11,645,828 |
| REMAINDER OF US IMPACTS ASSOCIATED WITH YEAR-BY-YEAR T&D EXPENDITURES | | | | | | |
| 2014 | 482 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$3,958,317 | \$6,408,474 |
| 2015 | 434 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$3,606,360 | \$5,860,131 |
| 2016 | 959 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$7,854,263 | \$12,658,435 |
| 2017 | 625 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$5,269,278 | \$8,444,040 |
| 2018 | 1,001 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$8,539,318 | \$13,716,913 |
| 2019 | 1,269 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$11,023,238 | \$17,756,183 |
| 2020 | 1,236 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$10,948,552 | \$17,630,261 |
| TOTAL US IMPACTS ASSOCIATED WITH YEAR-BY-YEAR T&D EXPENDITURES | | | | | | |
| 2014 | 1,041 | \$51,801,352 | \$98,233,705 | \$108,902,691 | \$8,122,204 | \$10,325,612 |
| 2015 | 944 | \$48,523,769.89 | \$76,439,965.89 | \$102,062,880.89 | \$7,244,823 | \$9,370,539 |
| 2016 | 2,361 | \$115,440,994 | \$161,963,290 | \$206,324,216 | \$15,988,807 | \$20,757,452 |
| 2017 | 1,577 | \$82,517,512 | \$119,836,139 | \$154,725,233 | \$11,164,935 | \$14,284,995 |
| 2018 | 2,513 | \$125,826,956 | \$177,882,218 | \$225,123,700 | \$18,046,196 | \$22,969,642 |
| 2019 | 3,178 | \$157,628,024 | \$220,868,590 | \$276,800,536 | \$23,243,789 | \$29,474,435 |
| 2020 | 3,105 | \$155,921,873 | \$218,938,945 | \$274,528,978 | \$23,118,582 | \$29,276,089 |

2 Introduction

Black & Veatch was retained by Northern Indiana Public Service Company (NIPSCO) to conduct an economic impact analysis of the construction expenditures associated with NIPSCO's 2014 through 2020 T&D system construction expenditures. The analysis in this report estimates the primary and secondary impacts of these expenditures on three different geographic regions: the state of Indiana, the remainder of the US, and the US as a whole. Impacts are estimated in the areas of employment, income, value added, wages, federal taxes, and state and local taxes.

To derive these estimates, data provided by NIPSCO was further developed and then used in the IMPLAN (Impact analysis for PLANning) impact analysis model, which is widely used in the energy industry. The general methodology used in the analysis is the "bill of goods" method, also called the "analysis by parts" method, which involves breaking down the utility's project expenditures by the industries from which the major materials, equipment, and services are expected to be purchased. This approach provides more precise estimates of impacts compared to simply modeling all project expenditures as utility sector expenditures.

3 Project Descriptions

NIPSCO is an electric and gas investor-owned utility headquartered in Merrillville, Indiana and is one of seven energy distribution companies of NiSource Inc. NIPSCO serves more than 786,000 natural gas customers and 457,000 electric customers across the northern third of Indiana, making it the largest natural gas distribution company and the second largest electric distribution company in Indiana.

NIPSCO provides electric service to parts of the following Indiana counties: Lake, Newton, Benton, Warren, Porter, Jasper, Laporte, Starke, Pulaski, White, Carroll, St. Joseph, Marshall, Fulton, Cass, Elkhart, Kosciusko, Lagrange, Noble, Steuben, and Dekalb. NIPSCO's primary generation facilities and their location include the Bailly Station (Chesterton), the Michigan City Station (Michigan City), the R.M. Schahfer Station (Wheatfield), and the Sugar Creek plant (West Terre Haute). The company also has two hydroelectric generation facilities near Monticello, Indiana.

Interconnecting the NIPSCO generating stations and the company's electric customers is an extensive network of high voltage transmission lines and lower voltage distribution lines. Over the seven year period of 2014-2020, NIPSCO will be undertaking significant new capital investments in T&D facilities in order to provide continued reliable and efficient electric services to its customers. In total, these investments will amount to nearly \$1.07 billion in nominal dollars. Nominal dollars refer to the actual dollar value of expenditure expected to occur in the year of expenditure and include expected inflationary impacts. In this study, an inflation factor of 3 percent per year has been assumed.

Table 3-1 also lists the breakdown of T&D investments by project category. As seen in the table, distribution project investments account for approximately \$544.5 million, transmission projects account for approximately \$314.2 million and overhead and economic development projects account for \$214.3 of the total T&D investment of \$1.07 billion. Within the distribution projects, distribution lines, account for the largest expenditure category (approximately \$282.3 million), followed by substation investments (approximately \$125.3 million), underground cable (approximately \$119.8 million), 4kV line (approximately \$15.1 million) and 4kV substation (approximately \$2.0 million). The largest categories of transmission projects are line rebuild projects (approximately \$119.9 million) and the substations. In addition, annual overhead and economic development expenditures are accounted for within the model. The total overhead expenditure over the 2014-2020 period amounts to \$144.0 million while the economic development expenditures⁴ over the same period amount to \$70.0 for a combined total of \$214.0 million.

Table 3-1 NIPSCO Transmission and Distribution Investment Expenditures, 2014-2020

(Costs in Nominal Dollars)

| TRANSMISSION PROJECTS | | DISTRIBUTION PROJECTS | | OVERHEAD AND ECONOMIC DEVELOPMENT | |
|---------------------------------|---------|-----------------------|----------------|-----------------------------------|---------|
| Transmission Lines: | \$119.9 | 4kV Line | \$15.1 million | Overhead | \$144.0 |
| ■ 138kV New/Rebuild Line | million | 4kV Substation | \$2.0 million | | million |
| ■ 69kV or 34kV New/Rebuild Line | | | | | |

⁴ Economic development expenditures were allocated to distribution and transmission projects on a 64%/36% respective basis. That is, for each year's economic development expenditure, it was assumed that 64% of the total was spent on distribution projects while 36% was spent on transmission projects.

| TRANSMISSION PROJECTS | | DISTRIBUTION PROJECTS | | OVERHEAD AND ECONOMIC DEVELOPMENT | |
|---|------------------------|--|---|--|------------------------|
| <ul style="list-style-type: none"> 69kV or 34kV Line Switch Replacement Line Engineering | | <ul style="list-style-type: none"> Underground Cable | | | |
| Transmission Substation: | \$194.2 million | Underground Cable | \$119.8 million | | |
| <ul style="list-style-type: none"> New/Rebuild Substation Transformers Relay Upgrades Breaker Upgrades Batteries Transformer Bushings Arrestors Disconnect Replacements Substation Engineering | | <ul style="list-style-type: none"> Distribution Lines: New/Rebuild Line Distributions Automation Line Engineering | <ul style="list-style-type: none"> \$282.3 million | Economic Development | \$70.0 million |
| | | <ul style="list-style-type: none"> Distribution Substations: New/ rebuild Substation Transformers Switchgear Relay Upgrades Breaker/ Recloser Upgrades Batteries Arrestors Feeder Cable Replacement Substation Engineering | <ul style="list-style-type: none"> \$125.3 million | | |
| Total Transmission Project Expenditures: 2014-2020 | \$314.2 million | Total Distribution Project Expenditures: 2014-2020 | \$544.5 million | Total Overhead and Economic Development Expenditures: | \$214.0 million |

The NIPSCO T&D expenditures will vary in value over the 2014-2020 period. Table 3-2 lists the expected value of expenditures, by year, during the 7-year investment timeframe. As seen in the table, expected T&D expenditures will be on the order of \$60 million in the first two years (2014 and 2015), are expected to be around \$100 million (or more) each year thereafter, and will surpass \$200 million in the final two years. In each of the seven years in the analysis, distribution project expenditures are expected to be higher than investments in transmission projects.

Table 3-2 NIPSCO Transmission and Distribution Investment Expenditures, 2014-2020

(Expenditures are in Nominal Dollars and include economic development projects)

| ANTICIPATED YEARLY NIPSCO EXPENDITURES ON TRANSMISSION AND DISTRIBUTION PROJECTS, 2014-2020 | | | | | | | |
|--|---------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Total |
| TRANSMISSION PROJECT EXPENDITURES | | | | | | | |
| \$26,152,188 | \$24,246,425 | \$47,111,759 | \$28,821,445 | \$55,460,776 | \$78,913,069 | \$78,791,354 | \$339,497,017 |
| DISTRIBUTION PROJECT EXPENDITURES | | | | | | | |
| \$35,847,812 | \$31,453,575 | \$92,288,241 | \$70,878,555 | \$102,539,224 | \$128,186,931 | \$128,008,646 | \$589,202,983 |
| TOTAL PROJECT EXPENDITURES (not including overhead) | | | | | | | |
| \$62,000,000 | \$55,700,000 | \$139,400,000 | \$99,700,000 | \$158,000,000 | \$207,100,000 | \$206,800,000 | \$928,700,000 |

4 Multiplier Impacts and the IMPLAN Model

The approximate \$1.07 billion in NIPSCO T&D investment and will have a large impact on the economies in the state of Indiana and will have spill-over impacts in the remainder of the United States. In addition to the primary or direct investment and expenditure impacts, there are also secondary impacts in the form of indirect and induced benefits that are explained conceptually below.

To capture the total economic impact of the project investment and operating expenditures, it is necessary to follow these expenditures as they worked their way through the Indiana and US economy over a period of a few years after expenditures are first made. For example, firms that are hired to construct a new 69 kV line segment will purchase poles, wire, or other materials and services from their suppliers. The suppliers of these goods and services will, in turn, use revenue to pay employees and to purchase inputs that allow the suppliers to meet their contract obligations. This process arising from the business to business purchases continues through many rounds of spending in the economy and will create a total economic impact that is a multiple of the original purchase of material and service inputs by the firms hired to construct the line segment. This type of effect is called the "indirect effect."

Similarly, a significant portion of the direct expenditure on T&D projects will be paid to workers who perform the work. Through what is called the "induced effect," these workers use their disposable earned income to purchase goods and services such as clothing, rent, automobile payments, food, vacations, savings, etc. Establishments that receive the worker's income in exchange for goods and services will, in turn, use the revenue received to pay their own workers, to purchase supplies needed to provide additional goods and services, etc. This process will continue through multiple rounds of spending in the economy and will create a total economic impact that is a multiple of the original wages received by those working directly on the T&D projects. Generally, through each round of spending, the impact will lessen because not all of the income is spent in the areas of study due to the purchase of imports, worker savings, taxes, etc. Thus, just as a stone thrown into water creates waves that lessen with time and distance, there will be an economic "ripple effect" with project expenditures that will lessen with time, as the successive rounds of spending work through the economy. Generally, most of the impacts from a new construction project will ripple through the economy within two to three years after the completion of a project.

While envisioning the successive rounds of spending in an economy is intuitive, in reality, tracing the actual spending patterns of even a single construction project would be enormously difficult and expensive. Fortunately, mathematical methods for estimating the economic impact of an investment on the economy using complex economic models, commonly referred to as input-output models, can be utilized. These types of models were first developed in the 1930s by Dr. Wassily Leontief. In recent decades, input-output models have been transformed into computerized commercial software that can generate impact estimates for employment, income, value-added, output and taxes that arise due to a new investment or other change in economic activity. These models are built upon detailed databases, including survey and reporting data from the government and other sources that tracks the historical economic interrelationship and expenditure patterns among industries and households. Two widely used input-output models are the RIMS II Input-Output model developed by the US Bureau of Economic Analysis, and the IMPLAN (IMPact analysis for PLANning) model, which is probably the most widely used model for energy sector investment studies. IMPLAN was used in this analysis due to its widespread use and its multi-regional modeling capabilities.

The IMPLAN model was developed initially in the 1970s by the US Forest Service, which wanted to determine the impacts of certain forestry policy and management decisions. In the mid-1980s, the US Forest Service contracted with the University of Minnesota to support and further develop the model data sets. In 1993, Minnesota IMPLAN Group, Inc. (MIG) was founded as an independent organization through a technology transfer agreement with the University of Minnesota, and MIG was given rights to all future IMPLAN development. In 1995, MIG began to develop the first Microsoft windows version and the following year IMPLAN Version 1 was released. This was followed by Version 2 in 1999 and Version 3 in 2009. Version 3 was used in this study since it has the ability to perform multi-regional impact analysis.

4.1 IDENTIFICATION OF THE PROJECT STUDY AREAS

One of the initial assumptions required in establishing an economic impact model is to determine the study area or areas to be evaluated. For this study, viewing impacts at the state level is beneficial since the impacts will be the most significant in Indiana and because local policy decisions may depend, in part, on a view of the economic impacts in the state. In addition, to understand the broader impact of state expenditures, it is also beneficial to track the impacts of Indiana project expenditures on the rest of the nation. Thus, the establishment of two geographical models is appropriate.

To assess the impacts of the project at the state and national levels, two models were created in IMPLAN, and a multi-regional modeling approach was utilized. The multi-regional approach allows the interaction of two or more geographic models. In other words, the Indiana model will estimate impacts from direct project expenditures made within the state, and it will also allow the tracking of impacts from expenditures made outside of Indiana but in the remainder of the US. Similarly, since T&D project expenditures will also involve the purchase of goods and services in the remainder of the US (outside of Indiana), the multi-regional approach will allow the capture of feedback effects on the Indiana economy arising from such expenditures.

With the establishment of two models, one for Indiana and one for the remainder of the US, the total US impact can then be estimated by summing the results of both models.

In some studies, an estimate of the economic impacts for the primary impact area, usually a sub-state region comprised of several counties where the expenditures will be concentrated, is also developed. While a primary impact area model was not developed as part of this study, one can assume that the greatest impact will be realized in the northern Indiana area, where much of the workforce for the project will live (as permanent residents or as temporary residents during construction) and spend a significant amount of their income.

5 Economic Impacts of NIPSCO T&D Expenditures

5.1 INDUSTRY ALLOCATION OF CONSTRUCTION EXPENDITURES

The \$1.07 billion of NIPSCO T&D expenditures were listed in Table 3-1 and arranged chronologically in Table 3-2. To construct the economic impact model using IMPLAN, the next step included development of more specific expenditure assumptions for each of the NIPSCO T&D project categories.

While using the general IMPLAN construction sector (sector 36) to model the T&D construction investment expenditures is possible, this sector is widely defined and can also include water treatment plant and airport construction. To develop more precise impact estimates, the method chosen for this analysis was a “bill of goods” approach, also called an “analysis by parts” approach in IMPLAN. This approach involves identifying the sectors or industries in which the project investment expenditures will be made.

Expenditure patterns were developed by consulting with NIPSCO regarding historical expenditure patterns for similar T&D projects. Table 5-1 shows the resulting derivation of the assumed sector expenditures and IMPLAN industry codes for the NIPSCO 2014 distribution projects. Table 5-2 shows the same information for the NIPSCO 2014 transmission projects. Similar table breakdowns, not shown in the report, were developed for the remaining years (2015-2020) of the analysis.

In Table 5-1, the distribution project total of \$35,847,812 at the bottom of columns 3 and 6 matches the amount spent on 2014 distribution projects as reported in Table 3-2. Columns 2 and 5 of Table 5-1 also indicate the assumed percentage and dollar breakdown of this total investment by distribution project type. In columns 7 through 9 of Table 5-1, the assignment of project expenditures into specific IMPLAN industry categories is shown, consistent with the ‘analysis by parts’ method used. Columns 10 and 11, which are shaded green, show the amount of direct project expenditures assumed to be spent in the US but outside of Indiana, and columns 12 and 13, in brown, show the amount of project expenditures assumed to be spent directly in Indiana. The total of the Indiana and US expenditures (columns 11 and 13) are less than the total project cost shown at the bottom of column 3 and 6 due to assumed imports, which are leakages to the economy.

NIPSCO | ECONOMIC IMPACTS OF PROJECTED NIPSCO TRANSMISSION & DISTRIBUTION EXPENDITURES, 2014-2020

Table 5-1 Development of Expenditure Sectors for NIPSCO's 2014 Distribution Project Expenditures (in nominal dollars)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|--|-----------------------|--------|--|------------------------------|--------|--|--|--|------------------------|--|-------------------------------------|--|
| Expenditure Categories | Assumed % by Category | \$000s | Subcategory | Percent of Subcategory Total | \$000s | Subcategory Breakdown | Further Breakdown | Implan Category | Percent US not Indiana | Input Into IMPLAN US Model (US-Indiana)/\$ Nom | Percent of US Expenditures in State | Input Into IMPLAN Indiana Model/\$ Nom |
| Construction | 100% | 100 | Construction | 100% | 100 | Construction | Construction | Construction | 100% | 100 | 100% | 100 |
| Manufacturing | 100% | 100 | Manufacturing | 100% | 100 | Manufacturing | Manufacturing | Manufacturing | 100% | 100 | 100% | 100 |
| Services | 100% | 100 | Services | 100% | 100 | Services | Services | Services | 100% | 100 | 100% | 100 |
| Government | 100% | 100 | Government | 100% | 100 | Government | Government | Government | 100% | 100 | 100% | 100 |
| Healthcare | 100% | 100 | Healthcare | 100% | 100 | Healthcare | Healthcare | Healthcare | 100% | 100 | 100% | 100 |
| Education | 100% | 100 | Education | 100% | 100 | Education | Education | Education | 100% | 100 | 100% | 100 |
| Transportation | 100% | 100 | Transportation | 100% | 100 | Transportation | Transportation | Transportation | 100% | 100 | 100% | 100 |
| Utilities | 100% | 100 | Utilities | 100% | 100 | Utilities | Utilities | Utilities | 100% | 100 | 100% | 100 |
| Food and Beverage | 100% | 100 | Food and Beverage | 100% | 100 | Food and Beverage | Food and Beverage | Food and Beverage | 100% | 100 | 100% | 100 |
| Textile and Apparel | 100% | 100 | Textile and Apparel | 100% | 100 | Textile and Apparel | Textile and Apparel | Textile and Apparel | 100% | 100 | 100% | 100 |
| Chemical and Allied Products | 100% | 100 | Chemical and Allied Products | 100% | 100 | Chemical and Allied Products | Chemical and Allied Products | Chemical and Allied Products | 100% | 100 | 100% | 100 |
| Metals and Metal Products | 100% | 100 | Metals and Metal Products | 100% | 100 | Metals and Metal Products | Metals and Metal Products | Metals and Metal Products | 100% | 100 | 100% | 100 |
| Nonmetallic Mineral Products | 100% | 100 | Nonmetallic Mineral Products | 100% | 100 | Nonmetallic Mineral Products | Nonmetallic Mineral Products | Nonmetallic Mineral Products | 100% | 100 | 100% | 100 |
| Plastics and Rubber Products | 100% | 100 | Plastics and Rubber Products | 100% | 100 | Plastics and Rubber Products | Plastics and Rubber Products | Plastics and Rubber Products | 100% | 100 | 100% | 100 |
| Electronics and Electrical Equipment | 100% | 100 | Electronics and Electrical Equipment | 100% | 100 | Electronics and Electrical Equipment | Electronics and Electrical Equipment | Electronics and Electrical Equipment | 100% | 100 | 100% | 100 |
| Transportation Equipment | 100% | 100 | Transportation Equipment | 100% | 100 | Transportation Equipment | Transportation Equipment | Transportation Equipment | 100% | 100 | 100% | 100 |
| Other Manufacturing | 100% | 100 | Other Manufacturing | 100% | 100 | Other Manufacturing | Other Manufacturing | Other Manufacturing | 100% | 100 | 100% | 100 |
| Wholesale Trade | 100% | 100 | Wholesale Trade | 100% | 100 | Wholesale Trade | Wholesale Trade | Wholesale Trade | 100% | 100 | 100% | 100 |
| Retail Trade | 100% | 100 | Retail Trade | 100% | 100 | Retail Trade | Retail Trade | Retail Trade | 100% | 100 | 100% | 100 |
| Food and Beverage Services | 100% | 100 | Food and Beverage Services | 100% | 100 | Food and Beverage Services | Food and Beverage Services | Food and Beverage Services | 100% | 100 | 100% | 100 |
| Accommodation and Food Services | 100% | 100 | Accommodation and Food Services | 100% | 100 | Accommodation and Food Services | Accommodation and Food Services | Accommodation and Food Services | 100% | 100 | 100% | 100 |
| Healthcare and Social Assistance | 100% | 100 | Healthcare and Social Assistance | 100% | 100 | Healthcare and Social Assistance | Healthcare and Social Assistance | Healthcare and Social Assistance | 100% | 100 | 100% | 100 |
| Education and Health Services | 100% | 100 | Education and Health Services | 100% | 100 | Education and Health Services | Education and Health Services | Education and Health Services | 100% | 100 | 100% | 100 |
| Arts, Entertainment, and Recreation | 100% | 100 | Arts, Entertainment, and Recreation | 100% | 100 | Arts, Entertainment, and Recreation | Arts, Entertainment, and Recreation | Arts, Entertainment, and Recreation | 100% | 100 | 100% | 100 |
| Other Services (except Healthcare and Education) | 100% | 100 | Other Services (except Healthcare and Education) | 100% | 100 | Other Services (except Healthcare and Education) | Other Services (except Healthcare and Education) | Other Services (except Healthcare and Education) | 100% | 100 | 100% | 100 |
| Government (except Education and Healthcare) | 100% | 100 | Government (except Education and Healthcare) | 100% | 100 | Government (except Education and Healthcare) | Government (except Education and Healthcare) | Government (except Education and Healthcare) | 100% | 100 | 100% | 100 |
| Construction (except Nonbuilding Structures) | 100% | 100 | Construction (except Nonbuilding Structures) | 100% | 100 | Construction (except Nonbuilding Structures) | Construction (except Nonbuilding Structures) | Construction (except Nonbuilding Structures) | 100% | 100 | 100% | 100 |
| Nonbuilding Structures | 100% | 100 | Nonbuilding Structures | 100% | 100 | Nonbuilding Structures | Nonbuilding Structures | Nonbuilding Structures | 100% | 100 | 100% | 100 |
| Manufacturing (except Food and Beverage) | 100% | 100 | Manufacturing (except Food and Beverage) | 100% | 100 | Manufacturing (except Food and Beverage) | Manufacturing (except Food and Beverage) | Manufacturing (except Food and Beverage) | 100% | 100 | 100% | 100 |
| Food and Beverage (except Food and Beverage Services) | 100% | 100 | Food and Beverage (except Food and Beverage Services) | 100% | 100 | Food and Beverage (except Food and Beverage Services) | Food and Beverage (except Food and Beverage Services) | Food and Beverage (except Food and Beverage Services) | 100% | 100 | 100% | 100 |
| Textile and Apparel (except Textile and Apparel) | 100% | 100 | Textile and Apparel (except Textile and Apparel) | 100% | 100 | Textile and Apparel (except Textile and Apparel) | Textile and Apparel (except Textile and Apparel) | Textile and Apparel (except Textile and Apparel) | 100% | 100 | 100% | 100 |
| Chemical and Allied Products (except Chemical and Allied Products) | 100% | 100 | Chemical and Allied Products (except Chemical and Allied Products) | 100% | 100 | Chemical and Allied Products (except Chemical and Allied Products) | Chemical and Allied Products (except Chemical and Allied Products) | Chemical and Allied Products (except Chemical and Allied Products) | 100% | 100 | 100% | 100 |
| Metals and Metal Products (except Metals and Metal Products) | 100% | 100 | Metals and Metal Products (except Metals and Metal Products) | 100% | 100 | Metals and Metal Products (except Metals and Metal Products) | Metals and Metal Products (except Metals and Metal Products) | Metals and Metal Products (except Metals and Metal Products) | 100% | 100 | 100% | 100 |
| Nonmetallic Mineral Products (except Nonmetallic Mineral Products) | 100% | 100 | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) | 100% | 100 | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) | 100% | 100 | 100% | 100 |
| Plastics and Rubber Products (except Plastics and Rubber Products) | 100% | 100 | Plastics and Rubber Products (except Plastics and Rubber Products) | 100% | 100 | Plastics and Rubber Products (except Plastics and Rubber Products) | Plastics and Rubber Products (except Plastics and Rubber Products) | Plastics and Rubber Products (except Plastics and Rubber Products) | 100% | 100 | 100% | 100 |
| Electronics and Electrical Equipment (except Electronics and Electrical Equipment) | 100% | 100 | Electronics and Electrical Equipment (except Electronics and Electrical Equipment) | 100% | 100 | Electronics and Electrical Equipment (except Electronics and Electrical Equipment) | Electronics and Electrical Equipment (except Electronics and Electrical Equipment) | Electronics and Electrical Equipment (except Electronics and Electrical Equipment) | 100% | 100 | 100% | 100 |
| Transportation Equipment (except Transportation Equipment) | 100% | 100 | Transportation Equipment (except Transportation Equipment) | 100% | 100 | Transportation Equipment (except Transportation Equipment) | Transportation Equipment (except Transportation Equipment) | Transportation Equipment (except Transportation Equipment) | 100% | 100 | 100% | 100 |
| Other Manufacturing (except Other Manufacturing) | 100% | 100 | Other Manufacturing (except Other Manufacturing) | 100% | 100 | Other Manufacturing (except Other Manufacturing) | Other Manufacturing (except Other Manufacturing) | Other Manufacturing (except Other Manufacturing) | 100% | 100 | 100% | 100 |
| Wholesale Trade (except Wholesale Trade) | 100% | 100 | Wholesale Trade (except Wholesale Trade) | 100% | 100 | Wholesale Trade (except Wholesale Trade) | Wholesale Trade (except Wholesale Trade) | Wholesale Trade (except Wholesale Trade) | 100% | 100 | 100% | 100 |
| Retail Trade (except Retail Trade) | 100% | 100 | Retail Trade (except Retail Trade) | 100% | 100 | Retail Trade (except Retail Trade) | Retail Trade (except Retail Trade) | Retail Trade (except Retail Trade) | 100% | 100 | 100% | 100 |
| Food and Beverage Services (except Food and Beverage Services) | 100% | 100 | Food and Beverage Services (except Food and Beverage Services) | 100% | 100 | Food and Beverage Services (except Food and Beverage Services) | Food and Beverage Services (except Food and Beverage Services) | Food and Beverage Services (except Food and Beverage Services) | 100% | 100 | 100% | 100 |
| Accommodation and Food Services (except Accommodation and Food Services) | 100% | 100 | Accommodation and Food Services (except Accommodation and Food Services) | 100% | 100 | Accommodation and Food Services (except Accommodation and Food Services) | Accommodation and Food Services (except Accommodation and Food Services) | Accommodation and Food Services (except Accommodation and Food Services) | 100% | 100 | 100% | 100 |
| Healthcare and Social Assistance (except Healthcare and Social Assistance) | 100% | 100 | Healthcare and Social Assistance (except Healthcare and Social Assistance) | 100% | 100 | Healthcare and Social Assistance (except Healthcare and Social Assistance) | Healthcare and Social Assistance (except Healthcare and Social Assistance) | Healthcare and Social Assistance (except Healthcare and Social Assistance) | 100% | 100 | 100% | 100 |
| Education and Health Services (except Education and Health Services) | 100% | 100 | Education and Health Services (except Education and Health Services) | 100% | 100 | Education and Health Services (except Education and Health Services) | Education and Health Services (except Education and Health Services) | Education and Health Services (except Education and Health Services) | 100% | 100 | 100% | 100 |
| Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) | 100% | 100 | Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) | 100% | 100 | Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) | Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) | Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) | 100% | 100 | 100% | 100 |
| Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education)) | 100% | 100 | Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education)) | 100% | 100 | Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education)) | Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education)) | Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education)) | 100% | 100 | 100% | 100 |
| Government (except Education and Healthcare) (except Government (except Education and Healthcare)) | 100% | 100 | Government (except Education and Healthcare) (except Government (except Education and Healthcare)) | 100% | 100 | Government (except Education and Healthcare) (except Government (except Education and Healthcare)) | Government (except Education and Healthcare) (except Government (except Education and Healthcare)) | Government (except Education and Healthcare) (except Government (except Education and Healthcare)) | 100% | 100 | 100% | 100 |
| Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures)) | 100% | 100 | Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures)) | 100% | 100 | Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures)) | Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures)) | Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures)) | 100% | 100 | 100% | 100 |
| Nonbuilding Structures (except Nonbuilding Structures) | 100% | 100 | Nonbuilding Structures (except Nonbuilding Structures) | 100% | 100 | Nonbuilding Structures (except Nonbuilding Structures) | Nonbuilding Structures (except Nonbuilding Structures) | Nonbuilding Structures (except Nonbuilding Structures) | 100% | 100 | 100% | 100 |
| Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage)) | 100% | 100 | Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage)) | 100% | 100 | Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage)) | Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage)) | Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage)) | 100% | 100 | 100% | 100 |
| Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services)) | 100% | 100 | Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services)) | 100% | 100 | Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services)) | Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services)) | Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services)) | 100% | 100 | 100% | 100 |
| Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel)) | 100% | 100 | Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel)) | 100% | 100 | Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel)) | Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel)) | Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel)) | 100% | 100 | 100% | 100 |
| Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products)) | 100% | 100 | Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products)) | 100% | 100 | Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products)) | Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products)) | Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products)) | 100% | 100 | 100% | 100 |
| Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products)) | 100% | 100 | Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products)) | 100% | 100 | Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products)) | Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products)) | Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products)) | 100% | 100 | 100% | 100 |
| Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products)) | 100% | 100 | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products)) | 100% | 100 | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products)) | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products)) | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products)) | 100% | 100 | 100% | 100 |
| Plastics and Rubber Products (except Plastics and Rubber Products) (except Plastics and Rubber Products (except Plastics and Rubber Products)) | 100% | 100 | Plastics and Rubber Products (except Plastics and Rubber Products) (except Plastics and Rubber Products (except Plastics and Rubber Products)) | 100% | 100 | Plastics and Rubber Products (except Plastics and Rubber Products) (except Plastics and Rubber Products (except Plastics and Rubber Products)) | Plastics and Rubber Products (except Plastics and Rubber Products) (except Plastics and Rubber Products (except Plastics and Rubber Products)) | Plastics and Rubber Products (except Plastics and Rubber Products) (except Plastics and Rubber Products (except Plastics and Rubber Products)) | 100% | 100 | 100% | 100 |
| Electronics and Electrical Equipment (except Electronics and Electrical Equipment) (except Electronics and Electrical Equipment (except Electronics and Electrical Equipment)) | 100% | 100 | Electronics and Electrical Equipment (except Electronics and Electrical Equipment) (except Electronics and Electrical Equipment (except Electronics and Electrical Equipment)) | 100% | 100 | Electronics and Electrical Equipment (except Electronics and Electrical Equipment) (except Electronics and Electrical Equipment (except Electronics and Electrical Equipment)) | Electronics and Electrical Equipment (except Electronics and Electrical Equipment) (except Electronics and Electrical Equipment (except Electronics and Electrical Equipment)) | Electronics and Electrical Equipment (except Electronics and Electrical Equipment) (except Electronics and Electrical Equipment (except Electronics and Electrical Equipment)) | 100% | 100 | 100% | 100 |
| Transportation Equipment (except Transportation Equipment) (except Transportation Equipment (except Transportation Equipment)) | 100% | 100 | Transportation Equipment (except Transportation Equipment) (except Transportation Equipment (except Transportation Equipment)) | 100% | 100 | Transportation Equipment (except Transportation Equipment) (except Transportation Equipment (except Transportation Equipment)) | Transportation Equipment (except Transportation Equipment) (except Transportation Equipment (except Transportation Equipment)) | Transportation Equipment (except Transportation Equipment) (except Transportation Equipment (except Transportation Equipment)) | 100% | 100 | 100% | 100 |
| Other Manufacturing (except Other Manufacturing) (except Other Manufacturing (except Other Manufacturing)) | 100% | 100 | Other Manufacturing (except Other Manufacturing) (except Other Manufacturing (except Other Manufacturing)) | 100% | 100 | Other Manufacturing (except Other Manufacturing) (except Other Manufacturing (except Other Manufacturing)) | Other Manufacturing (except Other Manufacturing) (except Other Manufacturing (except Other Manufacturing)) | Other Manufacturing (except Other Manufacturing) (except Other Manufacturing (except Other Manufacturing)) | 100% | 100 | 100% | 100 |
| Wholesale Trade (except Wholesale Trade) (except Wholesale Trade (except Wholesale Trade)) | 100% | 100 | Wholesale Trade (except Wholesale Trade) (except Wholesale Trade (except Wholesale Trade)) | 100% | 100 | Wholesale Trade (except Wholesale Trade) (except Wholesale Trade (except Wholesale Trade)) | Wholesale Trade (except Wholesale Trade) (except Wholesale Trade (except Wholesale Trade)) | Wholesale Trade (except Wholesale Trade) (except Wholesale Trade (except Wholesale Trade)) | 100% | 100 | 100% | 100 |
| Retail Trade (except Retail Trade) (except Retail Trade (except Retail Trade)) | 100% | 100 | Retail Trade (except Retail Trade) (except Retail Trade (except Retail Trade)) | 100% | 100 | Retail Trade (except Retail Trade) (except Retail Trade (except Retail Trade)) | Retail Trade (except Retail Trade) (except Retail Trade (except Retail Trade)) | Retail Trade (except Retail Trade) (except Retail Trade (except Retail Trade)) | 100% | 100 | 100% | 100 |
| Food and Beverage Services (except Food and Beverage Services) (except Food and Beverage Services (except Food and Beverage Services)) | 100% | 100 | Food and Beverage Services (except Food and Beverage Services) (except Food and Beverage Services (except Food and Beverage Services)) | 100% | 100 | Food and Beverage Services (except Food and Beverage Services) (except Food and Beverage Services (except Food and Beverage Services)) | Food and Beverage Services (except Food and Beverage Services) (except Food and Beverage Services (except Food and Beverage Services)) | Food and Beverage Services (except Food and Beverage Services) (except Food and Beverage Services (except Food and Beverage Services)) | 100% | 100 | 100% | 100 |
| Accommodation and Food Services (except Accommodation and Food Services) (except Accommodation and Food Services (except Accommodation and Food Services)) | 100% | 100 | Accommodation and Food Services (except Accommodation and Food Services) (except Accommodation and Food Services (except Accommodation and Food Services)) | 100% | 100 | Accommodation and Food Services (except Accommodation and Food Services) (except Accommodation and Food Services (except Accommodation and Food Services)) | Accommodation and Food Services (except Accommodation and Food Services) (except Accommodation and Food Services (except Accommodation and Food Services)) | Accommodation and Food Services (except Accommodation and Food Services) (except Accommodation and Food Services (except Accommodation and Food Services)) | 100% | 100 | 100% | 100 |
| Healthcare and Social Assistance (except Healthcare and Social Assistance) (except Healthcare and Social Assistance (except Healthcare and Social Assistance)) | 100% | 100 | Healthcare and Social Assistance (except Healthcare and Social Assistance) (except Healthcare and Social Assistance (except Healthcare and Social Assistance)) | 100% | 100 | Healthcare and Social Assistance (except Healthcare and Social Assistance) (except Healthcare and Social Assistance (except Healthcare and Social Assistance)) | Healthcare and Social Assistance (except Healthcare and Social Assistance) (except Healthcare and Social Assistance (except Healthcare and Social Assistance)) | Healthcare and Social Assistance (except Healthcare and Social Assistance) (except Healthcare and Social Assistance (except Healthcare and Social Assistance)) | 100% | 100 | 100% | 100 |
| Education and Health Services (except Education and Health Services) (except Education and Health Services (except Education and Health Services)) | 100% | 100 | Education and Health Services (except Education and Health Services) (except Education and Health Services (except Education and Health Services)) | 100% | 100 | Education and Health Services (except Education and Health Services) (except Education and Health Services (except Education and Health Services)) | Education and Health Services (except Education and Health Services) (except Education and Health Services (except Education and Health Services)) | Education and Health Services (except Education and Health Services) (except Education and Health Services (except Education and Health Services)) | 100% | 100 | 100% | 100 |
| Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) (except Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation)) | 100% | 100 | Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) (except Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation)) | 100% | 100 | Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) (except Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation)) | Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) (except Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation)) | Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation) (except Arts, Entertainment, and Recreation (except Arts, Entertainment, and Recreation)) | 100% | 100 | 100% | 100 |
| Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education))) | 100% | 100 | Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education))) | 100% | 100 | Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education))) | Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education))) | Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education) (except Other Services (except Healthcare and Education))) | 100% | 100 | 100% | 100 |
| Government (except Education and Healthcare) (except Government (except Education and Healthcare) (except Government (except Education and Healthcare))) | 100% | 100 | Government (except Education and Healthcare) (except Government (except Education and Healthcare) (except Government (except Education and Healthcare))) | 100% | 100 | Government (except Education and Healthcare) (except Government (except Education and Healthcare) (except Government (except Education and Healthcare))) | Government (except Education and Healthcare) (except Government (except Education and Healthcare) (except Government (except Education and Healthcare))) | Government (except Education and Healthcare) (except Government (except Education and Healthcare) (except Government (except Education and Healthcare))) | 100% | 100 | 100% | 100 |
| Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures))) | 100% | 100 | Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures))) | 100% | 100 | Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures))) | Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures))) | Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures) (except Construction (except Nonbuilding Structures))) | 100% | 100 | 100% | 100 |
| Nonbuilding Structures (except Nonbuilding Structures) (except Nonbuilding Structures (except Nonbuilding Structures)) | 100% | 100 | Nonbuilding Structures (except Nonbuilding Structures) (except Nonbuilding Structures (except Nonbuilding Structures)) | 100% | 100 | Nonbuilding Structures (except Nonbuilding Structures) (except Nonbuilding Structures (except Nonbuilding Structures)) | Nonbuilding Structures (except Nonbuilding Structures) (except Nonbuilding Structures (except Nonbuilding Structures)) | Nonbuilding Structures (except Nonbuilding Structures) (except Nonbuilding Structures (except Nonbuilding Structures)) | 100% | 100 | 100% | 100 |
| Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage))) | 100% | 100 | Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage))) | 100% | 100 | Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage))) | Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage))) | Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage) (except Manufacturing (except Food and Beverage))) | 100% | 100 | 100% | 100 |
| Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services))) | 100% | 100 | Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services))) | 100% | 100 | Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services))) | Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services))) | Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services) (except Food and Beverage (except Food and Beverage Services))) | 100% | 100 | 100% | 100 |
| Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel) (except Textile and Apparel)) | 100% | 100 | Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel) (except Textile and Apparel)) | 100% | 100 | Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel) (except Textile and Apparel)) | Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel) (except Textile and Apparel)) | Textile and Apparel (except Textile and Apparel) (except Textile and Apparel (except Textile and Apparel) (except Textile and Apparel)) | 100% | 100 | 100% | 100 |
| Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products)) | 100% | 100 | Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products)) | 100% | 100 | Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products)) | Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products)) | Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products (except Chemical and Allied Products) (except Chemical and Allied Products)) | 100% | 100 | 100% | 100 |
| Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products)) | 100% | 100 | Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products)) | 100% | 100 | Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products)) | Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products)) | Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products (except Metals and Metal Products) (except Metals and Metal Products)) | 100% | 100 | 100% | 100 |
| Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products)) | 100% | 100 | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products)) | 100% | 100 | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products)) | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products)) | Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products (except Nonmetallic Mineral Products) (except Nonmetallic Mineral Products)) | 100% | 100 | 100% | 100 |
| Plastics and Rubber Products (except Plastics and Rubber Products) (except Plastics and Rubber Products (except Plastics and Rubber Products) (except Plastics and | | | | | | | | | | | | |

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NIPSCO | ECONOMIC IMPACTS OF PROJECTED NIPSCO TRANSMISSION & DISTRIBUTION EXPENDITURES, 2014-2020

[illegible]

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[illegible]

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NIPSCO | ECONOMIC IMPACTS OF PROJECTED NIPSCO TRANSMISSION & DISTRIBUTION EXPENDITURES, 2014-2020

[illegible]

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5.2 IMPLAN MODEL RESULTS

Following the allocation of expenditures by sector for each year in the analysis, the Indiana and remainder of the US models were constructed in IMPLAN. The two models were linked using the IMPLAN multi-regional approach such that interregional secondary effects could be captured.

The results of the economic impact estimates are shown in Table 5-3 for Indiana, the rest of the US, and for the US as a whole. These impacts include:

- Total US impacts of 14,719 jobs, comprised of 8,714 jobs created or supported in Indiana and 6,005 jobs created or supported in the rest of the US. These employment numbers should be viewed as total job-years supported or created by expenditures during the study period.⁵
 - These employment figures equate to 8.5 jobs created or supported in Indiana per \$1 million dollars spent and 14.3 jobs created or supported within the total US per \$1 million dollars spent.
- Total US impacts of approximately \$1.1 billion in labor income, of which \$655.8 million in labor income is expected to occur in Indiana. Labor income includes all forms of employment income, including employee compensation (wages and benefits) and proprietor income. The average wage at the national level is projected to be \$72,221 and \$75,262 per job in Indiana.
- Total US impacts of approximately \$1.566 billion in value-added (GDP), of which approximately \$899.2 million is projected to occur in Indiana. Value added for a firm is their sales revenue less the costs of goods and services purchased. The sum of value added in all industries is the gross domestic product (GDP), or the total value of all final goods and services produced in the nation.⁶ Total US impacts of more than \$2.31 billion in total economic output, which is the total value of production from all industries impacted by the investment expenditures. Of this total, more than \$1.09 billion will occur in Indiana.
- Total US impacts of approximately \$ 106.9 million in state and local taxes. Of this total, approximately \$55.7 million in Indiana state and local taxes are projected. At the national level, a total of nearly \$136.5 million in federal taxes is projected, of which approximately \$54.0 million will be generated in Indiana.

⁵ IMPLAN's glossary of terms defines a "job" as "the annual average of monthly jobs in that industry" but also points out that this can be "1 job lasting 12 months" or "2 jobs lasting 6 months each" or "3 jobs lasting 4 months each" and also explains that "a job can be either full-time or part-time."

⁶ The IMPLAN glossary defines "value added" as "The difference between an industry's or an establishments total output and the cost of its intermediate inputs. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported)." As a simplified example, if a pipeline manufacturer purchased a steel plate for \$10,000 then transformed this into a pipeline segment that was then sold for \$50,000 then the value added would be \$40,000 (ignoring other intermediate inputs and their costs).

Table 5-3 NIPSCO Construction Expenditure Impacts for Indiana, the Remainder of the US, and all of the US

| IMPACT TYPE | EMPLOYMENT | LABOR INCOME | VALUE ADDED | OUTPUT | STATE/LOCAL TAXES | FEDERAL TAXES |
|---|---------------|------------------------|------------------------|------------------------|----------------------|----------------------|
| TOTAL INDIANA IMPACTS FROM NIPSCO T&D CONSTRUCTION EXPENDITURES, 2014-2020 | | | | | | |
| Direct Effect | 4,968 | \$496,850,914 | \$573,252,927 | \$619,560,486 | | |
| Indirect Effect | 178 | \$10,113,479 | \$57,529,999 | \$32,381,582 | | |
| Induced Effect | 3,569 | \$148,870,122 | \$268,437,719 | \$438,959,836 | | |
| Total Effect | 8,714 | \$655,834,514 | \$899,220,646 | \$1,090,901,906 | \$55,730,010 | \$53,984,327 |
| TOTAL IMPACTS FROM NIPSCO T&D CONSTRUCTION EXPENDITURES, REMAINDER OF US, 2014-2020 | | | | | | |
| Direct Effect | 1,428 | \$129,261,821 | \$183,799,685 | \$346,037,369 | | |
| Indirect Effect | 1,315 | \$97,131,087 | \$160,282,357 | \$318,536,902 | | |
| Induced Effect | 3,262 | \$180,800,087 | \$322,474,737 | \$559,132,096 | | |
| Total Effect | 6,005 | \$407,192,994 | \$666,556,779 | \$1,223,706,366 | \$51,199,326 | \$82,474,437 |
| TOTAL IMPACTS FROM NIPSCO T&D CONSTRUCTION AND EXPENDITURES, ALL OF US (INDIANA + REST OF US IMPACTS), 2014-2020 | | | | | | |
| Direct Effect | 6,396 | \$626,112,735 | \$757,052,612 | \$965,597,855 | | |
| Indirect Effect | 1,493 | \$107,244,566 | \$217,812,356 | \$350,918,484 | | |
| Induced Effect | 6,831 | \$329,670,209 | \$590,912,456 | \$998,091,932 | | |
| Total Effect | 14,719 | \$1,063,027,508 | \$1,565,777,425 | \$2,314,608,272 | \$106,929,336 | \$136,458,764 |

5.3 YEAR-BY-YEAR EXPENDITURE IMPACTS

The cumulative impact from 2014-2020 T&D investment expenditures can be broken down according to the economic impacts associated with expenditures made each year. These impacts are shown in Table 5-4. Consistent with the project expenditures, the economic impacts rise significantly after 2015 and generally are higher toward the end of the evaluation period as a result of inflationary and planned expenditure patterns.

Table 5-4 Impacts Associated with Year-by-Year T&D Expenditure Impacts

| YEAR | EMPLOY- MENT | LABOR INCOME | VALUE ADDED | OUTPUT | STATE/LOCAL TAXES | FEDERAL TAXES |
|--|-----------------|-----------------|----------------|---------------|----------------------|------------------|
| INDIANA IMPACTS ASSOCIATED WITH YEAR-BY-YEAR T&D EXPENDITURES | | | | | | |
| 2014 | 560 | \$40,111,928 | \$73,241,961 | \$72,107,501 | \$4,163,887 | \$3,917,138 |
| 2015 | 511 | \$36,834,346 | \$51,448,222 | \$65,267,691 | \$3,638,463 | \$3,510,408 |
| 2016 | 1,402 | \$103,751,570 | \$136,971,546 | \$169,529,026 | \$8,134,544 | \$8,099,017 |
| 2017 | 951 | \$70,828,088 | \$94,844,395 | \$117,930,043 | \$5,895,657 | \$5,840,955 |
| 2018 | 1,512 | \$114,137,532 | \$152,890,474 | \$188,328,510 | \$9,506,878 | \$9,252,729 |
| 2019 | 1,909 | \$145,938,600 | \$195,876,846 | \$240,005,346 | \$12,220,551 | \$11,718,252 |
| 2020 | 1,869 | \$144,232,449 | \$193,947,201 | \$237,733,788 | \$12,170,030 | \$11,645,828 |
| REMAINDER OF US IMPACTS ASSOCIATED WITH YEAR-BY-YEAR T&D EXPENDITURES | | | | | | |
| 2014 | 482 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$3,958,317 | \$6,408,474 |
| 2015 | 434 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$3,606,360 | \$5,860,131 |
| 2016 | 959 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$7,854,263 | \$12,658,435 |
| 2017 | 625 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$5,269,278 | \$8,444,040 |
| 2018 | 1,001 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$8,539,318 | \$13,716,913 |
| 2019 | 1,269 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$11,023,238 | \$17,756,183 |
| 2020 | 1,236 | \$11,689,424 | \$24,991,744 | \$36,795,190 | \$10,948,552 | \$17,630,261 |
| TOTAL US IMPACTS ASSOCIATED WITH YEAR-BY-YEAR T&D EXPENDITURES | | | | | | |
| 2014 | 1,041 | \$51,801,352 | \$98,233,705 | \$108,902,691 | \$8,122,204 | \$10,325,612 |
| 2015 | 944 | \$48,523,769.89 | \$76,439,966 | \$102,062,881 | \$7,244,823 | \$9,370,539 |
| 2016 | 2,361 | \$115,440,994 | \$161,963,290 | \$206,324,216 | \$15,988,807 | \$20,757,452 |
| 2017 | 1,577 | \$82,517,512 | \$119,836,139 | \$154,725,233 | \$11,164,935 | \$14,284,995 |
| 2018 | 2,513 | \$125,826,956 | \$177,882,218 | \$225,123,700 | \$18,046,196 | \$22,969,642 |
| 2019 | 3,178 | \$157,628,024 | \$220,868,590 | \$276,800,536 | \$23,243,789 | \$29,474,435 |
| 2020 | 3,105 | \$155,921,873 | \$218,938,945 | \$274,528,978 | \$23,118,582 | \$29,276,089 |