

IL EE STAKEHOLDER ADVISORY GROUP

NON-ENERGY IMPACTS WORKING GROUP

NOVEMBER 6, 2019



NAVIGANT

AGENDA

Recap of Last SAG NEI Working Group Meeting – Feb. 4, 2019

Economic Impact Assessment Methodology Review

Economic Impact Analysis Findings

Discussion and Q&A

RECAP OF LAST SAG NEI WORKING GROUP MEETING – FEBRUARY 4, 2019

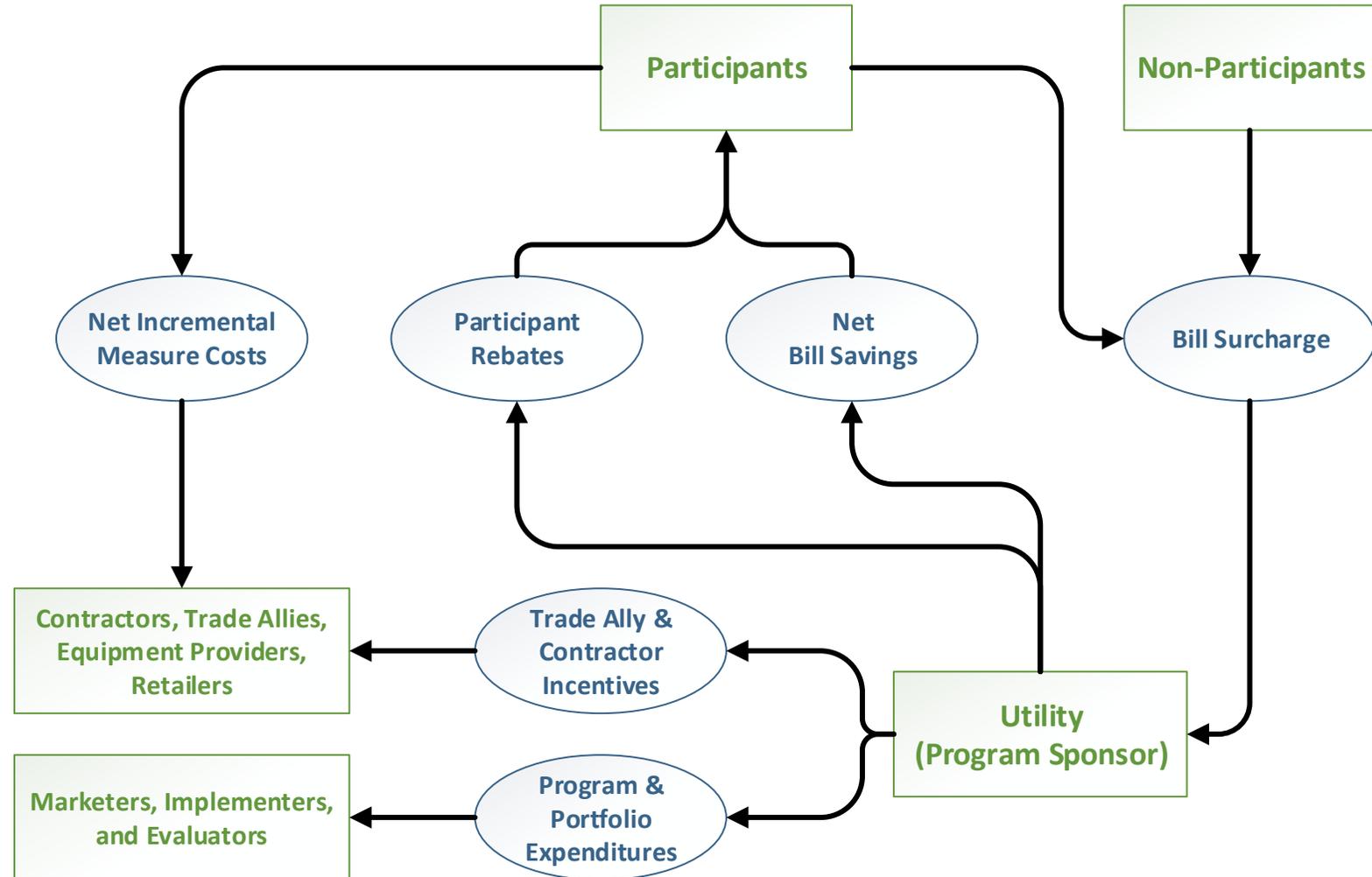
- Navigant and Opinion Dynamics presented the methodology to develop economic NEIs at the SAG NEI WG and also in the memo **“To NEI Working Group from Navigant and Opinion Dynamics: Illinois Economic and Employment Impact Methodology (draft, January 30, 2019)”**
 - Chris Neme provided high-level comments on this memo in an email which we considered as we moved forward with the analysis. We did not issue a revised version of the memo.
- Nicor Gas is working with Navigant to conduct their NEI economic impact analysis.
- Peoples Gas and North Shore Gas are in discussions with Navigant to conduct an NEI economic impact analysis.

OVERVIEW OF ECONOMIC IMPACT ANALYSIS

- Objectives:
 - Assessment of economic impacts, including employment, from EE programs on the Illinois economy
 - Assessment of the statewide impacts from utility programs on Illinois
 - To the degree possible, assessment of localized impacts of Illinois EE programs
- Economic Impacts (including job creation) are only part of the overall impact that EE programs have on the State of Illinois and utility customers – participants and non-participants. This analysis is specific to the economic aspects of EE programs and does not encompass societal impacts or utility-specific financial metrics (benefit-cost metrics). This analysis strictly provides insight into the effects that EE programs have on the Illinois economy.
- Analysis is based on the portfolio of programs implemented during the 2018 calendar year with impacts occurring over the life of each measure – up to 25 years. All impacts are based on the Net Present Value of those impacts.

ECONOMIC IMPACT ASSESSMENT METHODOLOGY – *IMPACT FRAMEWORK*

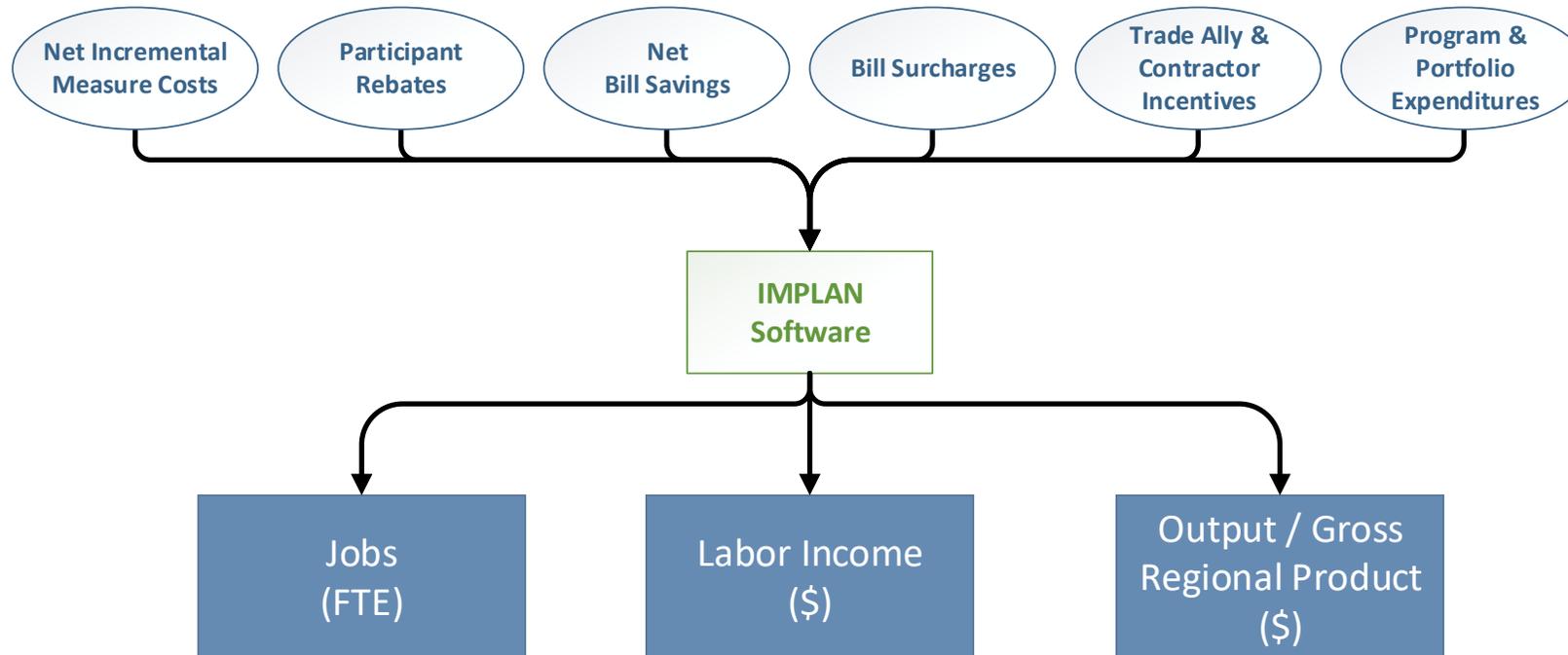
- Comprehensive approach to the economic transactions throughout the lifecycle of EE programs
- Includes **positive** economic impacts (e.g., Net Bill Savings) and **negative** economic impacts (e.g., Bill Surcharge)
- Economic impacts are associated with the applicable industry classification



ECONOMIC IMPACT ASSESSMENT METHODOLOGY – OVERVIEW

Three Step Process:

1. Data Collection – Economic activities of EE programs
2. Modeling – IMPLAN Software
3. Analysis of Output – Summarize and assess IMPLAN model output (Jobs, Labor Income, Output)



ECONOMIC IMPACT ASSESSMENT METHODOLOGY – *IMPLAN*

IMPLAN is a regional economic analysis software application that is designed to estimate the impact or ripple effect (specifically backward linkages) of a given economic activity within a specific geographic area through the implementation of its Input-Output (I-O) model. The following are assumptions within any I-O Model:

- Constant returns to scale
- No supply constraints
- Fixed input structure
- Industry technology assumption
- Constant byproducts coefficients
- The model is static

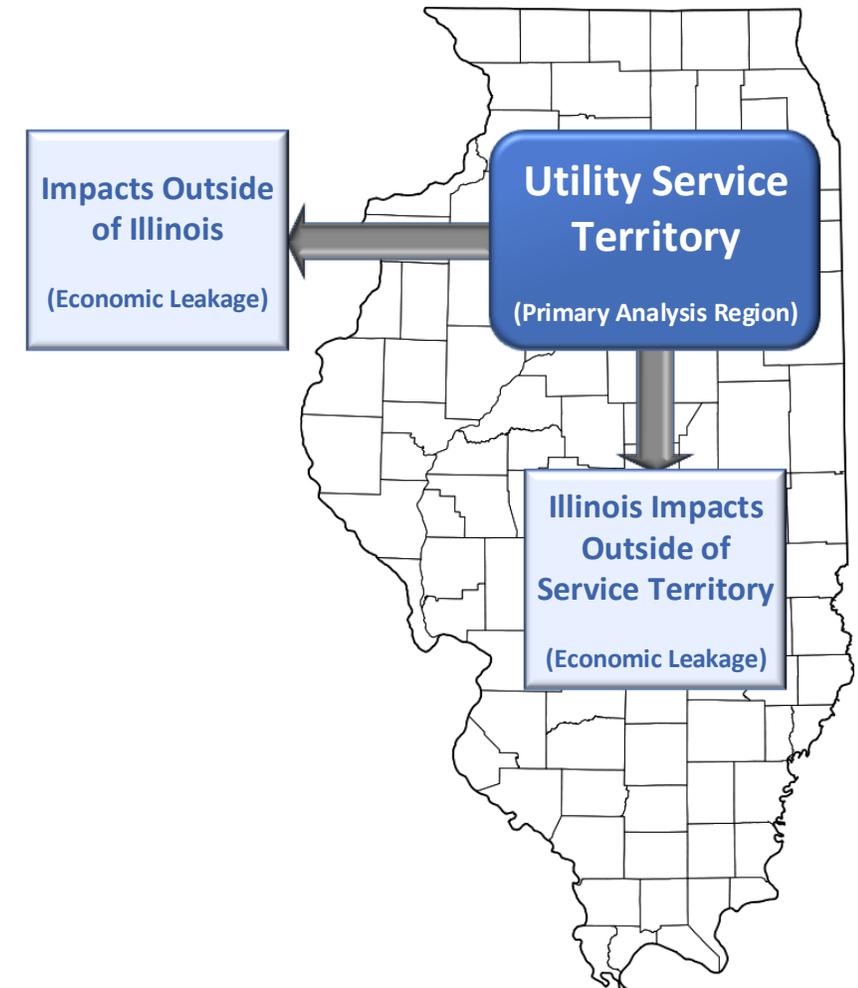
By design, the following key limitations apply to Input-Output Models, such as IMPLAN, and should be considered:

- **Feasibility:** The assumption that there are no supply constraints and there is fixed input structure means that even if input resources required are scarce, IMPLAN will assume it will still only require the same portion of production value to acquire that input, unless otherwise specified. The assumption of no supply constraints also applies to human resources, so there is assumed to be no constraint on the talent pool from which a business or organization can draw.
- **Backward-linked and Static model:** I-O models do not account for forward linkages, nor do I-O models account for offsetting effects such as cannibalization of other existing businesses, diverting funds used from other potential or existing projects.
- **Like the model, prices are also static:** Price changes cannot be modeled an I-O model directly; instead, the final demand effects of a price change must be estimated before modeling them in IMPLAN to estimate the additional economic impacts of such changes.

For more information on the IMPLAN modeling process, visit IMPLAN.com.

ECONOMIC IMPACT ASSESSMENT METHODOLOGY – GEOGRAPHY OF IMPACTS

- For utility EE programs, economic impacts occur in one of three locations:
 1. Within the utility's service territory
 2. Outside the utility's service territory – but within Illinois
 3. Outside of Illinois
- Analysis implements a Multi-Regional Input-Output (MRIO) within IMPLAN to estimate impacts that happen within the utility service territory (#1) and elsewhere in Illinois (#2).
- The MRIO approach simplifies the aggregation of impacts across utilities within Illinois by standardizing the defined geographies
- A portion of the total economic impacts happen outside of Illinois, but are not explicitly estimated within the modeling framework due to the additional costs for economic data covering regions outside of Illinois
- Approaches for estimating impacts at the community level have been explored, but would require localized inputs that go far beyond the level of detail that is required for other analysis. It is also more expensive to acquire the underlying economic data for more granular regions. Due to these factors, it is not feasible within the current scope.



ECONOMIC IMPACT ASSESSMENT METHODOLOGY – MODELING APPROACH

Each category of economic impact has been aligned with the sectors of the economy that most closely align with them.

Household Impacts

- All households with representative weighting applied to each income level

Income Qualified Impacts

- Households with an annual income less than \$40k

Business Impacts

- All businesses – excluding utilities – weighted for economic output within utility territory

Net Incremental Measure Cost Impacts

- Retailers of Building Materials and Appliances

Utility Revenue Impacts

- Electric Utilities (T&D utilities plus procurement of electricity)
- Gas Utilities
- Water Utilities

SUMMARY OF INPUT DATA FOR ECONOMIC IMPACTS – COMMONWEALTH EDISON

Impact Category	Amount		Impacted Segments	
Residential Bill Savings	\$514.0 M	+	Households	
Income Eligible Bill Savings	\$83.3 M	+	Income Eligible Households	
Business Bill Savings	\$921.2 M	+	Businesses	
Lost Electric Utility Revenue	\$1,522.2 M	-	Electric Utilities	
Lost Gas Utility Revenue	-\$30.7 M	-	Gas Utilities	
Lost Water Utility Revenue	\$27.0 M	-	Water Utilities	
Residential Incentives and Rebates	\$58.5 M	+	Households	
Income Eligible Incentives and Rebates	\$20.8 M	+	Income Eligible Households	
Business Incentives and Rebates	\$126.6 M	+	Businesses	
Residential Net Incremental Measure Costs	\$77.6 M	-	Households	+
Income Eligible Net Incremental Measure Costs	\$23.9 M	-	Income Eligible Households	+
Business Net Incremental Measure Costs	\$394.5 M	-	Businesses	+
Residential Program Administration Costs	\$29.7 M	+	Electric Utilities	
Income Eligible Program Administration Costs	\$11.8 M	+	Electric Utilities	
Business Program Administration Costs	\$46.9 M	+	Electric Utilities	
Residential and Income-Eligible Program Funding (Bill Surcharges)	\$120.8 M	-	All Households	
Business Program Funding (Bill Surcharges)	\$173.5 M	-	Businesses	

ECONOMIC IMPACT ANALYSIS – COMMONWEALTH EDISON FINDINGS

Impact Category	Utility Territory	Rest of State	Statewide Total
Jobs Created	9,314 Jobs	-4 Jobs	9,310 Jobs
Labor Income	\$316.1 M	-\$0.9 M	\$315.2 M
Economic Output	\$138.8 M	-\$7.8 M	\$131.0 M

- Shift from capital-intensive industry (Utilities) to labor-intensive industries (e.g., Retail) due to bill savings and household spending patterns - leading to an increased number of jobs and labor income.
- Households in the ComEd territory are less economically connected with the rest of the state than the utilities that serve them (electric, gas, and water), but have a similarly strong spending pattern in their local economy.
- The magnitude of lighting programs within ComEd’s portfolio has led to additional natural gas consumption. This shifts a portion of electric bill savings to natural gas consumption – which contributes more to economic output due to the localized capital intensive nature of utilities. This provides a greater impact to economic output than would have been achieved without the substantial lighting programs.

ECONOMIC IMPACT ANALYSIS – COMMONWEALTH EDISON FINDINGS

Top Industries - Employment Impact	
Retail - General merchandise stores	1,123 Jobs
Construction of other new nonresidential structures	483 Jobs
Retail - Building material and garden equipment and supplies stores	476 Jobs
Real estate	443 Jobs
Construction of new single-family residential structures	413 Jobs
Hospitals	326 Jobs
Construction of other new residential structures	304 Jobs
Maintenance and repair construction of nonresidential structures	291 Jobs
Wholesale trade	288 Jobs
Retail - Electronics and appliance stores	282 Jobs

Top Industries - Labor Income Impact	
Construction of other new nonresidential structures	\$35.7 M
Retail - General merchandise stores	\$33.6 M
Wholesale trade	\$30.4 M
Construction of new single-family residential structures	\$28.7 M
Hospitals	\$27.5 M
Retail - Electronics and appliance stores	\$21.6 M
Maintenance and repair construction of nonresidential structures	\$21.3 M
Construction of other new residential structures	\$19.5 M
Management of companies and enterprises	\$19.3 M
Real estate	\$19.3 M

Top Industries - Output Impact	
Real estate	\$111.3 M
Construction of other new residential structures	\$104.5 M
Retail - General merchandise stores	\$87.4 M
Owner-occupied dwellings	\$82.8 M
Wholesale trade	\$80.8 M
Construction of other new nonresidential structures	\$80.1 M
Construction of new single-family residential structures	\$72.5 M
Hospitals	\$57.1 M
Maintenance and repair construction of nonresidential structures	\$53.0 M
Retail - Building material and garden equipment and supplies stores	\$52.3 M

SUMMARY OF INPUT DATA FOR ECONOMIC IMPACTS – AMEREN ILLINOIS

Impact Category	Amount		Impacted Segments	
Residential Bill Savings	\$103.7 M	+	Households	
Income Eligible Bill Savings	\$10.8 M	+	Income Eligible Households	
Business Bill Savings	\$230.5 M	+	Businesses	
Lost Electric Utility Revenue	\$350.5 M	-	Electric Utilities	
Lost Gas Utility Revenue	\$21.0 M	-	Gas Utilities	
Lost Water Utility Revenue	\$4.1 M	-	Water Utilities	
Residential Incentives and Rebates	\$16.4 M	+	Households	
Income Eligible Incentives and Rebates	\$21.7 M	+	Income Eligible Households	
Business Incentives and Rebates	\$32.1 M	+	Businesses	
Residential Net Incremental Measure Costs	\$11.8 M	-	Households	+
Income Eligible Net Incremental Measure Costs	\$11.8 M	-	Income Eligible Households	+
Business Net Incremental Measure Costs	\$26.4 M	-	Businesses	+
Residential Program Administration Costs	\$26.4 M	+	Electric Utilities	
Income Eligible Program Administration Costs	\$84.6 M	+	Electric Utilities	
Business Program Administration Costs	\$84.6 M	+	Electric Utilities	
Residential and Income-Eligible Program Funding (Bill Surcharges)	\$18.6 M	-	All Households	
Business Program Funding (Bill Surcharges)	\$9.5 M	-	Businesses	

ECONOMIC IMPACT ANALYSIS – AMEREN ILLINOIS FINDINGS

Impact Category	Utility Territory	Rest of State	Statewide Total
Jobs Created	1,752 Jobs	78 Jobs	1,830 Jobs
Labor Income	\$35.7 M	\$5.3 M	\$41.0 M
Economic Output	-\$113.0 M	\$14.6 M	-\$98.4 M

- Shift from capital-intensive industry (Utilities) to labor-intensive industries (e.g., Retail) due to bill savings and household spending patterns - leading to an increased number of jobs and labor income despite a reduction in economic output.
- Households in the Ameren Illinois territory are more economically connected with the rest of the state than the utilities that serve them (electric, gas, and water).
- Households in the Ameren Illinois territory spend a lower portion of their money within Illinois than their utilities. This is primarily due to the proximity of Ameren’s territory to a number of major cities located near the Illinois state line, but in adjacent states. This leads households to spend a higher portion of their expenditures outside of Illinois.

ECONOMIC IMPACT ANALYSIS – AMEREN ILLINOIS FINDINGS

Top Industries - Employment Impact	
Retail - General merchandise stores	366 Jobs
Retail - Building material and garden equipment and supplies stores	151 Jobs
Construction of other new nonresidential structures	127 Jobs
Construction of new single-family residential structures	103 Jobs
Construction of other new residential structures	80 Jobs
Maintenance and repair construction of nonresidential structures	77 Jobs
Wholesale trade	67 Jobs
Real estate	55 Jobs
Hospitals	49 Jobs
Limited-service restaurants	48 Jobs

Top Industries - Labor Income Impact	
Retail - General merchandise stores	\$10.2 M
Construction of other new nonresidential structures	\$7.3 M
Retail - Building material and garden equipment and supplies stores	\$5.8 M
Construction of new single-family residential structures	\$5.5 M
Construction of other new residential structures	\$4.4 M
Maintenance and repair construction of nonresidential structures	\$4.4 M
Wholesale trade	\$3.8 M
Hospitals	\$3.2 M
Offices of physicians	\$2.7 M
Maintenance and repair construction of residential structures	\$2.4 M

Top Industries - Output Impact	
Retail - General merchandise stores	\$27.5 M
Construction of other new residential structures	\$26.0 M
Construction of other new nonresidential structures	\$18.1 M
Retail - Building material and garden equipment and supplies stores	\$16.1 M
Construction of new single-family residential structures	\$15.5 M
Owner-occupied dwellings	\$13.4 M
Wholesale trade	\$13.3 M
Maintenance and repair construction of nonresidential structures	\$12.3 M
Insurance carriers	\$9.6 M
Real estate	\$8.5 M

COMBINED STATEWIDE ECONOMIC IMPACTS

Impact Category	Statewide Total
Jobs Created	11,140 Jobs
Labor Income	\$356.2 M
Economic Output	\$32.6 M

Top Industries - Employment Impact	
Retail - General merchandise stores	1,489 Jobs
Retail - Building material and garden equipment and supplies stores	627 Jobs
Construction of other new nonresidential structures	610 Jobs
Construction of new single-family residential structures	516 Jobs
Real estate	498 Jobs
Construction of other new residential structures	384 Jobs
Hospitals	376 Jobs
Maintenance and repair construction of nonresidential structures	368 Jobs
Wholesale trade	355 Jobs
Retail - Electronics and appliance stores	329 Jobs

Top Industries - Labor Income Impact	
Retail - General merchandise stores	\$43.7 M
Construction of other new nonresidential structures	\$24.9 M
Construction of new single-family residential structures	\$43.0 M
Wholesale trade	\$34.2 M
Hospitals	\$20.4 M
Maintenance and repair construction of nonresidential structures	\$24.0 M
Retail - Building material and garden equipment and supplies stores	\$30.7 M
Construction of other new residential structures	\$25.7 M
Retail - Electronics and appliance stores	\$34.2 M
Management of companies and enterprises	\$23.9 M

Top Industries - Output Impact	
Construction of other new residential structures	\$114.9 M
Real estate	\$68.4 M
Retail - General merchandise stores	\$98.2 M
Construction of other new nonresidential structures	\$88.0 M
Owner-occupied dwellings	\$119.8 M
Wholesale trade	\$130.4 M
Construction of new single-family residential structures	\$64.7 M
Retail - Building material and garden equipment and supplies stores	\$65.2 M
Maintenance and repair construction of nonresidential structures	\$94.1 M
Hospitals	\$26.6 M



QUESTIONS
&
FEEDBACK

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APPENDIX

TYPES OF ECONOMIC IMPACTS

- **Direct Impacts:** Impacts resulting from changes in demand for industry output/commodities, household income, or spending patterns.
- **Indirect Impacts:** Impacts from business-to-business transactions resulting from the direct impact.
- **Induced Impacts:** Impacts from household spending from changes in labor income.
- **Total Impacts:** Sum of Direct, Indirect, and Induced impacts.
 - All impacts references in this presentation are total impacts. Including changes in employment, labor income, and economic output.

