

Sector Investment Portfolio Comparison Study  
Allied Consulting Group LLC  
March 2026



RGV & Laredo Regions

# MANUFACTURING vs. WAREHOUSING & STORAGE vs. RETAIL TRADE

Three-Sector Comparative Economic Impact Assessment

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## Executive Summary

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This report presents a direct, quantitative comparison of the regional economic contributions of Manufacturing, Warehousing & Storage, and Retail Trade investment in the Rio South Texas Region. Using identical modeling conditions, investment scenarios, and analytical frameworks applied in all three companion sector reports, this analysis isolates the structural economic differences between the three sectors — enabling evidence-based portfolio strategy for regional economic development.

**The central finding:** Manufacturing investment generates substantially greater regional economic multiplier effects than equivalent investment in either Warehousing & Storage or Retail Trade, driven by deeper supply chain activation. However, all three sectors serve distinct and complementary roles in the regional economic ecosystem — manufacturing as the multiplier engine, warehousing as logistics infrastructure, and retail as consumer-serving and fiscal infrastructure. Notably, Retail Trade generates the highest local and state tax revenue of all three sectors at equivalent investment, while warehousing and retail produce nearly identical regional GDP despite structurally different economic profiles.



## Key Comparative Metrics – \$1B Reference Scenario (Operations Phase)

Metric	Manufacturing	Warehousing & Storage	Retail Trade
Direct Jobs	2,500	2,500	2,500
<b>Total Regional Jobs</b>	<b>9,010</b>	<b>3,573</b>	<b>3,245</b>
<b>Employment Multiplier</b>	<b>3.60x</b>	<b>1.43x</b>	<b>1.30x</b>
Direct Wage per Job	\$57,398	\$56,123	\$33,208
<b>Annual Labor Income</b>	<b>\$343.8M</b>	<b>\$186.9M</b>	<b>\$111.5M</b>
<b>Annual Regional GDP</b>	<b>\$593.4M</b>	<b>\$232.0M</b>	<b>\$228.8M</b>
<b>Annual Economic Output</b>	<b>\$1,985.3M</b>	<b>\$394.1M</b>	<b>\$386.8M</b>
<b>Annual Tax Revenue</b>	<b>\$123.5M</b>	<b>\$54.6M</b>	<b>\$70.0M</b>
Local + State Tax Revenue	\$38.7M	\$11.8M	\$40.7M

**Strategic Conclusion:** At equivalent capital investment and direct employment scale, Manufacturing investment generates 2.5–2.8x more total regional jobs, 2.6x more annual GDP, and 5x more total economic output than either Warehousing & Storage or Retail Trade. The difference is driven entirely by supply chain depth. However, Retail Trade delivers a distinctive fiscal advantage — generating the highest local and state tax revenue of all three sectors (\$40.7M vs. \$38.7M for manufacturing and \$11.8M for warehousing). A balanced regional portfolio prioritizes manufacturing as the primary economic engine, deploys warehousing as enabling logistics infrastructure, and develops retail as quality-of-life and local fiscal infrastructure.

## 1.0 Purpose and Analytical Framework

### 1.1 Purpose of the Comparison

This three-sector comparative assessment extends the original Manufacturing vs. Warehousing & Storage comparison to include Retail Trade — completing a comprehensive portfolio analysis across the three major investment categories available to the Rio South Texas Region.

The companion sector assessments — Manufacturing, Warehousing & Storage, and Retail Trade — each present single-sector economic projections. This report synthesizes all three into a unified structural comparison, applying a common analytical lens to answer the core questions:

- Which sector generates the greatest regional economic impact per dollar invested?
- Which sector generates the most regional jobs per direct position created?
- Which sector contributes most to local and state tax revenues?
- How do the three sectors relate to each other strategically, and how should they be sequenced in a portfolio development strategy?
- What is the optimal mix of sectors for a diversified regional economy?

## 1.2 Analytical Symmetry

All three assessments were designed for direct comparability. Identical conditions apply:

- **Same investment scenarios:** \$500M, \$1B (recommended), and \$3B
- **Same capital-to-employment ratio:** \$400,000 per direct job — 1,250, 2,500, and 7,500 direct jobs per scenario
- **Same modeling framework:** Proprietary regional input-output model, same regional economy, same impact categories
- **Same reporting structure:** Direct, indirect, and induced effects across employment, labor income, GDP, output, and tax revenue

**Construction phase:** Construction phase data is available for all three sectors, enabling direct comparison of temporary construction-period impacts alongside permanent operational impacts.

## 1.3 What This Comparison Measures — and What It Doesn't

This comparison measures the **regional economic multiplier effect** of each sector — how much total economic activity is generated per dollar of investment and per direct job created. It does not measure:

- Long-term strategic positioning (supply chain cluster formation, workforce development pipelines)
- Non-quantifiable benefits (regional identity, quality of life, consumer satisfaction, population retention)
- Interaction effects between sectors when all three are present simultaneously
- Site-specific or company-specific recruitment factors
- Dynamic effects (how one sector's growth stimulates demand for the others over time)

## 2.0 Employment Impact Comparison

### 2.1 Total Employment by Scenario – Operations Phase

Scenario	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	4,505	1,786	1,622
\$1B (Reference)	9,010	3,573	3,245
\$3B	27,031	10,718	9,734

Manufacturing’s employment advantage over both sectors is **consistent across all scenarios**: approximately 2.52x over warehousing and 2.78x over retail. Warehousing generates 1.10x more total employment than retail at every level.

### 2.2 Employment Multiplier Breakdown – \$1B Scenario

Sector	Direct Jobs	Indirect Jobs	Induced Jobs	Total	Multiplier
Manufacturing	2,500	5,387	1,123	9,010	3.60x
Warehousing & Storage	2,500	473	599	3,573	1.43x
Retail Trade	2,500	387	358	3,245	1.30x

The most important structural finding is in the **indirect employment channel**:

Comparison	Indirect Employment Ratio
Manufacturing vs. Warehousing	11.4x
Manufacturing vs. Retail	13.9x
Warehousing vs. Retail	1.22x

Manufacturing generates 5,387 indirect jobs from 2,500 direct positions – Warehousing generates 473, and Retail generates only 387. This 11–14x differential in indirect employment between manufacturing and the other sectors is the single most important structural distinction in the comparison.

The **induced employment channel** shows a different pattern:

Comparison	Induced Employment Ratio
Manufacturing vs. Warehousing	1.88x
Manufacturing vs. Retail	3.14x
Warehousing vs. Retail	1.67x

The induced gap between warehousing and retail (1.67x) reflects the direct wage differential — warehousing workers earn \$56,123 vs. retail’s \$33,208, generating proportionally more household spending.

### 2.3 Why the Multipliers Differ: Supply Chain Depth

The employment multiplier hierarchy — Manufacturing (3.60x) > Warehousing (1.43x) > Retail (1.30x) — reflects fundamental differences in each sector’s position within the economic supply chain:

**Manufacturing (3.60x):** Sits upstream in the supply chain. Purchases raw materials, components, and business services from a broad range of industries — metals fabrication, agricultural inputs, chemical processors, wholesale distributors. Each upstream purchase generates its own employment cascade. The supply chain is wide, deep, and multi-tiered.

**Warehousing & Storage (1.43x):** Sits midstream. Purchases transportation services, equipment leasing, fuel, and labor staffing — a narrow set of service industries with limited further upstream activation. Most inputs are either purchased nationally or from sectors with limited local employment linkages.

**Retail Trade (1.30x):** Sits at the downstream endpoint. Purchases finished goods from national and international wholesale supply chains with minimal local intermediation. The sector’s primary economic function is consumer distribution, not production or processing — limiting its capacity to activate regional supply chain employment.

**Key insight:** The multiplier hierarchy follows supply chain position exactly. The further upstream a sector sits, the more regional supply chain employment it activates. Manufacturing creates goods; warehousing moves goods; retail sells goods. Each successive step in this chain generates diminishing regional supply chain activation.



## 3.0 Labor Income Comparison

### 3.1 Total Annual Labor Income

Scenario	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	\$171.9M	\$93.5M	\$55.8M
\$1B (Reference)	\$343.8M	\$186.9M	\$111.5M
\$3B	\$1,031.4M	\$560.8M	\$334.5M

### 3.2 Labor Income Decomposition – \$1B Scenario

Channel	Manufacturing	Warehousing & Storage	Retail Trade
Direct	\$143.5M	\$140.3M	\$83.0M
Indirect	\$153.9M	\$21.8M	\$13.7M
Induced	\$46.4M	\$24.8M	\$14.8M
<b>Total</b>	<b>\$343.8M</b>	<b>\$186.9M</b>	<b>\$111.5M</b>

Two distinct structural patterns emerge:

**Manufacturing vs. Warehousing – Supply chain depth drives the gap:** Direct labor income is nearly equal (\$143.5M vs. \$140.3M, a \$3.2M difference). The \$156.9M total income advantage is generated almost entirely in the indirect channel – manufacturing’s supply chain generates \$153.9M in indirect labor income vs. only \$21.8M for warehousing. This pattern was identified in the original two-sector comparison and remains the defining structural distinction.

**Warehousing vs. Retail – Direct wages drive the gap:** Unlike the manufacturing-warehousing comparison, the warehousing-retail income gap is dominated by the direct channel (\$140.3M vs. \$83.0M, a \$57.3M difference). Warehousing workers earn \$56,123/year vs. retail’s \$33,208/year – a 69% wage premium that cascades through all channels. The indirect and induced gaps are smaller in absolute terms.



### 3.3 Direct Wage Comparison

Sector	Direct Jobs (\$1B)	Direct Labor Income	Avg. Wage per Job
Manufacturing	2,500	\$143,496,144	\$57,398
Warehousing & Storage	2,500	\$140,306,552	\$56,123
Retail Trade	2,500	\$83,020,838	\$33,208

Manufacturing and warehousing offer nearly identical direct wages — a worker choosing between a manufacturing job and a warehousing job would face essentially equivalent compensation. Retail wages are **42% lower** than both, reflecting the sector’s characteristic part-time, entry-level, and service-oriented wage profile.

This wage differential is the most significant structural distinction between retail and the other two sectors, and it drives downstream differences in induced employment, induced tax revenue, and total income amplification.

## 4.0 Regional GDP Comparison

### 4.1 Annual Regional GDP (Value Added) — All Scenarios

Scenario	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	\$296.7M	\$116.0M	\$114.4M
\$1B (Reference)	\$593.4M	\$232.0M	\$228.8M
\$3B	\$1,780.1M	\$696.0M	\$686.5M

### 4.2 The Warehouse-Retail GDP Convergence

One of the most striking findings in the three-sector comparison: **Warehousing and Retail generate nearly identical regional GDP** — \$232.0M vs. \$228.8M at \$1B, a difference of only \$3.2M (1.4%). This convergence occurs despite fundamentally different economic profiles:



Metric	Warehousing & Storage	Retail Trade
Total Employment	3,573	3,245
Employment Multiplier	1.43x	1.30x
Total Labor Income	\$186.9M	\$111.5M
Direct Wage/Job	\$56,123	\$33,208
<b>Total GDP</b>	<b>\$232.0M</b>	<b>\$228.8M</b>

Retail achieves GDP parity with warehousing despite having fewer total jobs, much lower wages, and a lower multiplier. This is explained by retail’s **higher direct value-added margin**: retail’s direct value added per worker (\$69,749) exceeds warehousing’s (\$59,326) by 18%, reflecting the substantial non-labor value in retail operations — commercial rent, proprietor income, franchise fees, and business profits. These value-added streams contribute to regional GDP independent of the wage level.

#### 4.3 GDP per Direct Job — \$1B Scenario

Metric	Manufacturing	Warehousing & Storage	Retail Trade
Annual GDP	\$593.4M	\$232.0M	\$228.8M
GDP per direct job	\$237,346	\$92,802	\$91,529
GDP per total job	\$65,856	\$64,940	\$70,516

The **GDP per total job** metric reveals an unexpected pattern: retail generates the highest GDP per total job (\$70,516) of all three sectors. This reflects retail’s high value-added margin per establishment — each retail job is associated with more regional GDP because the sector captures significant non-labor economic value (margins, rents, profits) relative to its employment count.

Manufacturing’s GDP advantage is fully explained by its multiplier: 2.6x more GDP because it supports 2.5–2.8x more total jobs. At the per-total-job level, all three sectors generate similar or higher value.



## 5.0 Total Economic Output Comparison

### 5.1 Annual Total Output – All Scenarios

Scenario	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	\$992.8M	\$197.1M	\$193.4M
\$1B (Reference)	\$1,985.3M	\$394.1M	\$386.8M
\$3B	\$5,956.0M	\$1,182.3M	\$1,160.4M

### 5.2 The Output Gap – Manufacturing vs. the Field

The total economic output gap between manufacturing and both other sectors is dramatic and consistent:

Comparison	Output Ratio
Manufacturing vs. Warehousing	5.04x
Manufacturing vs. Retail	5.13x
Warehousing vs. Retail	1.02x

Manufacturing generates five times more total regional economic output than either warehousing or retail at equivalent investment – a compounding effect of both more supply chain jobs and higher-output supply chain sectors.

Warehousing and retail output are, once again, nearly identical (\$394.1M vs. \$386.8M, a 1.9% gap) – confirming the GDP convergence pattern identified in Section 4.

### 5.3 Direct vs. Supply Chain Output – \$1B Scenario

Channel	Manufacturing	Warehousing & Storage	Retail Trade
Direct Output	\$1,194.1M	\$229.3M	\$268.2M
Indirect Output	\$614.3M	\$70.3M	\$62.2M
Induced Output	\$177.0M	\$94.5M	\$56.4M
<b>Total</b>	<b>\$1,985.3M</b>	<b>\$394.1M</b>	<b>\$386.8M</b>

Notable: Retail's direct output (\$268.2M) is 17% higher than warehousing's (\$229.3M), further confirming the margin-driven nature of retail's economic contribution. The output gap between retail

and warehousing narrows in the indirect and induced channels, where warehousing’s higher wages and marginally broader supply chain generate more downstream activity.

Output per direct job at the \$1B scale: - **Manufacturing:** \$794,136 per direct job - **Warehousing & Storage:** \$157,641 per direct job - **Retail Trade:** \$154,724 per direct job

## 6.0 Fiscal Impact Comparison

### 6.1 Annual Tax Revenue – Operations Phase

Scenario	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	\$61.7M	\$27.3M	\$35.0M
\$1B (Reference)	\$123.5M	\$54.6M	\$70.0M
\$3B	\$370.4M	\$163.9M	\$210.0M

The fiscal hierarchy reveals a **critical distinction**: while manufacturing generates the most total tax revenue, **retail generates more than warehousing** at every investment level – by approximately 28%. This is a counterintuitive result given that retail has a lower employment multiplier (1.30x vs. 1.43x) and substantially lower labor income (\$111.5M vs. \$186.9M at \$1B).

### 6.2 Tax Revenue by Jurisdiction – \$1B Scenario

Jurisdiction	Manufacturing	Warehousing & Storage	Retail Trade	Highest
Sub-County General	\$5,205,681	\$1,574,446	\$5,514,691	<b>Retail</b>
Sub-County Special Districts	\$8,169,474	\$2,476,613	\$8,636,113	<b>Retail</b>
County	\$4,633,541	\$1,408,836	\$4,885,566	<b>Retail</b>
State	\$20,679,083	\$6,384,185	\$21,623,389	<b>Retail</b>
Federal	\$84,793,248	\$42,786,978	\$29,332,053	<b>Manufacturing</b>
<b>Total</b>	<b>\$123,481,028</b>	<b>\$54,631,057</b>	<b>\$69,991,812</b>	<b>Manufacturing</b>

**Retail leads at every jurisdictional level except federal.** This is the most strategically significant fiscal finding in the three-sector comparison:

- **Sub-County General:** Retail (\$5.5M) > Manufacturing (\$5.2M) > Warehousing (\$1.6M)
- **Sub-County Special Districts:** Retail (\$8.6M) > Manufacturing (\$8.2M) > Warehousing (\$2.5M)
- **County:** Retail (\$4.9M) > Manufacturing (\$4.6M) > Warehousing (\$1.4M)
- **State:** Retail (\$21.6M) > Manufacturing (\$20.7M) > Warehousing (\$6.4M)
- **Federal:** Manufacturing (\$84.8M) > Warehousing (\$42.8M) > Retail (\$29.3M)

### 6.3 Local vs. Federal Tax Distribution

Sector	Local + State Tax (\$1B)	Federal Tax (\$1B)	Local+State % of Total
<b>Retail Trade</b>	<b>\$40,659,759</b>	\$29,332,053	<b>58.1%</b>
Manufacturing	\$38,687,779	\$84,793,248	31.3%
Warehousing & Storage	\$11,844,080	\$42,786,978	21.7%

Retail’s fiscal structure is fundamentally different from both manufacturing and warehousing. While manufacturing and warehousing generate the majority of their tax revenue through federal payroll and income taxes (reflecting higher wages), retail generates its tax revenue primarily through property taxes, sales taxes, and state franchise taxes — tax instruments that flow directly to local and state jurisdictions.

**For local governments specifically:** Retail generates \$19.0M in combined sub-county and county tax revenue at \$1B — more than manufacturing (\$18.0M) and over three times more than warehousing (\$5.5M). This directly affects school district funding, special district services, county government capacity, and regional infrastructure investment.

### 6.4 Fiscal Efficiency Analysis

Tax revenue per total job supported provides a measure of fiscal efficiency:

Sector	Total Tax (\$1B)	Total Jobs	Tax per Total Job	Local+State per Total Job
Manufacturing	\$123.5M	9,010	\$13,705	\$4,294
Warehousing & Storage	\$54.6M	3,573	\$15,289	\$3,315
Retail Trade	\$70.0M	3,245	\$21,569	\$12,530

Retail generates the highest tax revenue per total job (\$21,569) and by far the highest local+state tax per total job (\$12,530) – approximately three times manufacturing’s rate and nearly four times warehousing’s rate. This reflects the sector’s unique tax structure: high property taxes per establishment, sales tax generation on goods sold, and state franchise taxes – all of which generate fiscal returns disproportionate to employment volume.

## 7.0 Supply Chain Activation Patterns

### 7.1 Top Industries by Impact Output – \$1B Reference Scenario

#### Manufacturing – Top 10 Industries

Rank	Industry	Impact Output
1	Animal slaughtering	\$396,186,521
2	Fabricated structural metal manufacturing	\$272,806,893
3	Beef cattle ranching and farming	\$230,623,619
4	All other miscellaneous electrical equipment manufacturing	\$171,341,045
5	Other plastics product manufacturing	\$128,447,299
6	Scales, balances, and general purpose machinery manufacturing	\$114,703,805
7	All other miscellaneous manufacturing	\$114,554,406
8	Animal production (except cattle/poultry)	\$6,231,173
9	Grain farming	\$5,476,464
10	Other animal food manufacturing	\$4,500,854

#### Warehousing & Storage – Top 10 Industries

Rank	Industry	Impact Output
1	Warehousing and storage	\$236,013,975
2	Employment services	\$5,614,731
3	Insurance agencies, brokerages	\$4,822,760
4	Scenic/sightseeing transportation & support	\$4,151,319
5	Automotive equipment rental and leasing	\$4,001,191
6	Petroleum refineries	\$3,872,377
7	Wholesale — Petroleum products	\$3,232,498
8	Commercial/industrial machinery rental	\$3,198,545
9	Couriers and messengers	\$1,646,475
10	Postal service	\$800,382

#### Retail Trade — Top 10 Industries

Rank	Industry	Impact Output
1	Retail — Food and beverage stores	\$57,710,677
2	Retail — Clothing and accessories stores	\$47,778,876
3	Retail — Building material and garden stores	\$39,428,457
4	Full-service restaurants	\$39,110,292
5	Limited-service restaurants	\$34,835,032
6	Retail — Health and personal care stores	\$30,419,138
7	Retail — General merchandise stores	\$29,136,913
8	Other real estate	\$14,990,496
9	Management of companies and enterprises	\$3,501,402
10	Warehousing and storage	\$2,348,776

## 7.2 Supply Chain Structural Comparison

Characteristic	Manufacturing	Warehousing & Storage	Retail Trade
Supply chain position	Upstream (production)	Midstream (distribution)	Downstream (consumption)
Industry breadth	High – 15+ distinct sectors	Low – 4-5 service categories	Moderate – 5-7 retail/ consumer categories
Agricultural linkages	Strong – beef, grain, animal production	Minimal	Minimal
Industrial linkages	Strong – metals, machinery, plastics	Minimal	Minimal
Service sector activation	Moderate	Primary (logistics, insurance, fuel)	Primary (restaurants, real estate)
Self-referential impact	Low	High (warehousing #1)	High (retail sub-sectors dominate)
Upstream complexity	High – multi-tier	Low – 1-2 tier	Minimal – endpoint
Consumer service activation	Low	Low	High

## 7.3 The Three Supply Chain Profiles

**Manufacturing** activates the broadest and deepest industrial base – food processing, metals fabrication, agricultural supply chains, plastics, machinery, and electrical equipment. Impact is distributed across many industries at large output scales, reflecting genuine multi-tier supply chain activation.

**Warehousing** activates a narrow logistics-services supply chain – employment services, fuel/energy, equipment leasing, transportation support, and insurance. The dominant impact industry is warehousing itself (\$236M at \$1B), reflecting the sector’s self-contained nature.

**Retail** activates primarily other retail sub-sectors and consumer food services – reflecting the consumer-demand pattern rather than industrial supply chain depth. Retail’s top impact industries are parallel retail categories (food and beverage stores, clothing, building materials) and restaurants that serve retail workers’ household spending.

**Key structural insight:** Each sector activates the economic layer closest to its own function. Manufacturing activates industrial production; warehousing activates logistics services; retail

activates consumer services. None of the three sectors significantly activates the others' core supply chains – which confirms their complementary rather than substitutable nature.

## 8.0 Construction Phase Comparison

### 8.1 Construction Employment by Scenario

Scenario	Manufacturing	Warehousing & Storage	Retail Trade	Highest
\$500M	3,538	7,012	3,118	W&S
\$1B	7,075	14,024	6,235	W&S
\$3B	21,227	42,071	18,706	W&S

### 8.2 Construction GDP Comparison

Scenario	Manufacturing	Warehousing & Storage	Retail Trade	Highest
\$500M	\$286.6M	\$455.3M	\$209.1M	W&S
\$1B	\$573.1M	\$910.7M	\$418.2M	W&S
\$3B	\$1,719.4M	\$2,732.0M	\$1,254.5M	W&S

### 8.3 Construction Tax Revenue Comparison

Scenario	Manufacturing	Warehousing & Storage	Retail Trade	Highest
\$500M	\$60.1M	\$107.2M	\$47.8M	W&S
\$1B	\$120.1M	\$214.4M	\$95.6M	W&S
\$3B	\$360.4M	\$643.3M	\$286.7M	W&S

## 8.4 Construction Phase Ratios – \$1B Scenario

Comparison	Employment	GDP	Tax Revenue
W&S vs. Manufacturing	1.98x	1.59x	1.79x
W&S vs. Retail	2.25x	2.18x	2.24x
Manufacturing vs. Retail	1.13x	1.37x	1.26x

## 8.5 Construction Phase Narrative

The construction phase presents a clear hierarchy: **Warehousing** >> **Manufacturing** > **Retail** across all metrics and all scenarios. Warehousing construction generates approximately twice the employment and GDP of manufacturing construction, and over twice that of retail construction, at equivalent investment scale.

This hierarchy reflects fundamental differences in construction type:

- **Warehouse construction** is the most labor-intensive: large steel-frame buildings with simple mechanical systems, requiring substantial labor for earthworks, slab laying, erection, and finishing. The \$3B scenario generates 42,071 construction jobs — more than double either competitor.
- **Manufacturing construction** is moderately labor-intensive but more capital-equipment focused: specialized production equipment, complex HVAC and utilities, and precision industrial infrastructure reduce labor hours per construction dollar.
- **Retail construction** is moderately labor-intensive with significant finish work: commercial building structures with substantial interior build-out (fixtures, displays, signage, specialized HVAC), but smaller individual footprints and more standardized construction processes.

**Implication for regional planning:** If near-term construction employment is a priority, warehousing development produces the largest construction-period stimulus per investment dollar. Retail construction generates the smallest temporary employment effect — but all three sectors provide meaningful construction-phase economic activity that supplements their permanent operational contributions.



## 9.0 Wage and Income Equity Analysis

### 9.1 Direct Wage Comparison

Sector	Direct Wage/Job	Relative to Manufacturing
Manufacturing	\$57,398	Baseline
Warehousing & Storage	\$56,123	97.8% (essentially equal)
Retail Trade	\$33,208	57.9% (42% lower)

The wage comparison reveals a clear two-tier structure: - **Tier 1 (Production/Logistics):** Manufacturing and warehousing offer nearly identical wages (~\$56,000–\$57,000), competitive with regional norms and sufficient for household financial stability. - **Tier 2 (Consumer Services):** Retail wages (\$33,208) are substantially lower, reflecting the sector’s part-time, entry-level, and service-oriented workforce composition.

### 9.2 Workforce Access and Demographic Reach

Characteristic	Manufacturing	Warehousing & Storage	Retail Trade
Typical entry role	Production operator	Forklift operator	Sales associate
Typical mid-tier role	Machine operator, QC tech	Inventory specialist	Department manager
Typical professional role	Process engineer	Logistics manager	Store manager
Credential requirement	Vocational cert / OJT	Forklift cert / OJT	Minimal / OJT
Part-time workforce	Low (5-10%)	Low (5-10%)	High (30-50%)
Student/re-entry access	Moderate	Moderate	High
Bilingual advantage	Moderate	High (cross-border)	High (cross-border)
Schedule flexibility	Low (shift-based)	Low (shift-based)	Moderate-High

Retail’s lower wage profile is partially offset by **broader workforce accessibility**. The sector provides employment entry points for: - Part-time workers (students, parents with childcare constraints) - Workers re-entering the labor force - Workers building initial employment history - Workers without specialized certifications or training

In a region where elevated unemployment and labor force non-participation remain structural challenges, retail’s accessibility has social value that extends beyond its per-job economic impact.

### 9.3 Total Income Amplification

Metric	Manufacturing (\$1B)	Warehousing (\$1B)	Retail (\$1B)
Total labor income per direct job	\$137,524	\$74,771	\$44,601
Supply chain income per direct job	\$80,126	\$18,648	\$11,401
Direct wage per job	\$57,398	\$56,123	\$33,208

**Each manufacturing direct job generates \$80,126 in additional regional income** through its supply chain — compared to \$18,648 for warehousing and \$11,401 for retail. Manufacturing’s supply chain income amplification (the income generated for workers in upstream industries per direct manufacturing job) is 4.3x warehousing and 7.0x retail.

This amplification gap is the core economic development argument for manufacturing primacy. While direct wages at both manufacturing and warehousing are equivalent, the income flowing to the broader regional economy per direct job is dramatically higher for manufacturing.

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## 10.0 Strategic Portfolio Analysis

### 10.1 Three-Sector Positioning Framework

Understanding how the three sectors function within a regional economic portfolio is essential for strategic planning. The sectors are not interchangeable alternatives — they occupy distinct and complementary roles:



Role	Manufacturing	Warehousing & Storage	Retail Trade
<b>Economic function</b>	Production and value creation	Distribution and throughput	Consumer services and sales
<b>Regional impact model</b>	Multiplier engine	Enabling infrastructure	Quality-of-life and fiscal infrastructure
<b>Supply chain position</b>	Upstream (creates outputs)	Midstream (moves outputs)	Downstream (sells to consumers)
<b>Employment character</b>	High multiplier, diverse skills	Moderate multiplier, logistics focus	Low multiplier, broad access
<b>Wage profile</b>	High (\$57,398)	High (\$56,123)	Moderate (\$33,208)
<b>Operational multiplier</b>	High (3.60x)	Moderate (1.43x)	Modest (1.30x)
<b>Total tax yield</b>	Highest (\$123.5M)	Lowest (\$54.6M)	Middle (\$70.0M)
<b>Local+State tax yield</b>	Middle (\$38.7M)	Lowest (\$11.8M)	Highest (\$40.7M)
<b>Fiscal efficiency (local)</b>	Moderate (\$4,294/total job)	Low (\$3,315/total job)	High (\$12,530/total job)

## 10.2 Sequencing and Complementarity

The most strategically sophisticated approach recognizes that all three sectors reinforce each other:

**Manufacturing → Warehousing linkage:** Manufacturing requires distribution infrastructure. Cold-chain warehousing enables food and beverage manufacturing. General warehousing provides outbound logistics capacity. Warehousing investment is a prerequisite for manufacturing scale.

**Manufacturing → Retail linkage:** Manufacturing creates high-wage jobs (\$57,398) that generate consumer demand. Retail investment captures that demand regionally rather than allowing it to leak to other markets. A manufacturing workforce without adequate local retail infrastructure will spend outside the region.

**Warehousing → Retail linkage:** Warehousing and distribution infrastructure supports retail supply chain efficiency. Regional distribution centers reduce retail operating costs and enable broader product assortment. Logistics capacity directly supports retail competitiveness.

**Retail → Manufacturing/Warehousing linkage:** Retail provides the consumer-facing infrastructure that attracts and retains the workforce populations required by manufacturing and warehousing. Retail's local tax revenue funds the public services and infrastructure that support all three sectors. Retail's cross-border consumer capture adds revenue that would otherwise flow outside the region.

### 10.3 Ten-Year Cumulative Comparison

At the \$1B operational scale for each sector, the regional economy would experience the following cumulative contributions over a 10-year horizon (assuming steady-state from Year 1):

10-Year Cumulative	Manufacturing \$1B	Warehousing \$1B	Retail \$1B
Total Jobs Supported	9,010/yr	3,573/yr	3,245/yr
Total Labor Income	\$3.438B	\$1.869B	\$1.115B
Total Regional GDP	\$5.934B	\$2.320B	\$2.288B
Total Economic Output	\$19.853B	\$3.941B	\$3.868B
Total Tax Revenue	\$1.235B	\$546M	\$700M
Total Local+State Tax	\$387M	\$118M	\$407M

Over a decade: - Manufacturing generates \$3.6 billion more GDP than warehousing and \$3.6 billion more than retail - But retail generates \$154 million more in total tax revenue than warehousing - And retail generates \$20 million more in local+state tax revenue than manufacturing - Retail's 10-year local+state tax advantage over warehousing is \$289 million

### 10.4 Portfolio Recommendation

The analytical evidence supports a three-tier strategic portfolio framework for COSTEP:

**Primary strategy – Manufacturing as economic engine:** - Manufacturing investment should remain the primary target for incentive packages, infrastructure investment, and regional economic development recruitment - The 3.60x employment multiplier, 2.6x GDP advantage, and superior supply chain activation make manufacturing the irreplaceable core of regional economic growth - Recommended benchmark: \$1B manufacturing investment generating 9,010 total jobs and \$593.4M in annual GDP

**Enabling strategy – Warehousing as logistics infrastructure:** - Warehousing investment should be positioned as a supporting layer – enabling manufacturing attraction and serving agricultural/cross-border trade functions - Priority sub-sectors: cold-chain (NAICS 493120) for food/beverage manufacturing support; bonded warehousing for cross-border supply chain facilitation - Target scale: \$200M–\$500M in coordinated warehousing infrastructure to establish a functional logistics base

**Complementary strategy – Retail as quality-of-life and fiscal infrastructure:** - Retail investment should be pursued to capture the consumer demand generated by manufacturing and warehousing employment, to attract and retain workforce populations, and to build local fiscal capacity - Retail's unique fiscal profile – generating the highest local and state tax revenue of all three sectors –

makes it a critical contributor to the public service infrastructure that supports the entire economic portfolio - Target scale: \$250M–\$750M in retail corridor and mixed-use commercial development, concentrated in high-growth population areas and cross-border shopping corridors

**Optimal sequence:** 1. Build warehousing infrastructure first (\$200M–\$500M) — establish logistics capacity 2. Recruit manufacturing investment (\$500M–\$1B) — leverage logistics infrastructure as a competitive differentiator 3. Develop retail infrastructure in parallel (\$250M–\$500M) — capture consumer demand, build local fiscal base, attract workforce 4. Scale all three sectors as the regional economy matures — target \$1B+ in each sector over 10-15 years

**Combined portfolio scenario — \$1B each sector (operations phase):**

Metric	Manufacturing	Warehousing	Retail	Combined Portfolio
Direct Jobs	2,500	2,500	2,500	<b>7,500</b>
Total Jobs	9,010	3,573	3,245	<b>15,828</b>
Annual Labor Income	\$343.8M	\$186.9M	\$111.5M	<b>\$642.2M</b>
Annual Regional GDP	\$593.4M	\$232.0M	\$228.8M	<b>\$1,054.2M</b>
Annual Total Output	\$1,985.3M	\$394.1M	\$386.8M	<b>\$2,766.2M</b>
Annual Tax Revenue	\$123.5M	\$54.6M	\$70.0M	<b>\$248.1M</b>
Annual Local+State Tax	\$38.7M	\$11.8M	\$40.7M	<b>\$91.2M</b>

A balanced \$3B portfolio across all three sectors would generate 15,828 total regional jobs, over \$1 billion in annual GDP, and \$248 million in annual tax revenue — with \$91 million flowing to local and state jurisdictions annually.

## 11.0 Conclusions

### 11.1 Summary of Key Differentials

The three-sector comparative analysis yields six core findings:

**1. Manufacturing has a dramatically higher employment multiplier (3.60x vs. 1.43x vs. 1.30x).** Each manufacturing job generates 2.6 additional regional positions; each warehousing job generates 0.43; each retail job generates 0.30. This hierarchy is consistent across all investment scenarios and is driven by supply chain position.

**2. Warehousing and retail generate nearly identical regional GDP.** Despite different employment volumes, wage levels, and multiplier profiles, warehousing (\$232.0M) and retail (\$228.8M) produce essentially the same annual GDP at \$1B. Retail achieves parity through higher direct value-added margins that compensate for lower wages and fewer supply chain jobs.

**3. Retail generates the highest local and state tax revenue.** At \$1B, retail produces \$40.7M in local+state tax — exceeding manufacturing (\$38.7M) by \$2.0M and warehousing (\$11.8M) by \$28.9M. This counterintuitive result reflects retail's property tax, sales tax, and franchise tax profile — tax categories where retail's commercial footprint generates disproportionate fiscal returns.

**4. The multiplier gap is supply chain driven, not wage driven (for manufacturing vs. warehousing).** Direct wages at manufacturing and warehousing are essentially identical (\$57,398 vs. \$56,123). The entire multiplier advantage flows from manufacturing's deeper upstream supply chain linkages.

**5. The retail-warehousing gap is wage driven.** Unlike the manufacturing-warehousing comparison, the economic gap between retail and warehousing is dominated by the direct wage differential (\$33,208 vs. \$56,123). Retail's lower wages reduce induced spending, induced employment, and federal tax revenue — but are partially offset by retail's higher value-added margins and local tax generation.

**6. The three sectors are structurally complementary, not substitutes.** Manufacturing produces, warehousing distributes, and retail sells. Each sector activates a different supply chain layer. None significantly activates the others' core industries. An optimal regional economy includes all three.



## 11.2 Decision Framework for Investment Prioritization

Decision Criterion	Mfg	W&S	Retail
Maximum long-term regional jobs	✓		
Maximum regional GDP	✓		
Maximum total tax revenue	✓		
Maximum local/state tax revenue			✓
Maximum fiscal efficiency (local tax per job)			✓
Competitive direct wages	✓	✓	
Broadest workforce access			✓
Enabling manufacturing investment		✓	
Cross-border trade facilitation		✓	
Cross-border consumer capture			✓
Workforce attraction and retention			✓
Supply chain cluster formation	✓		
Regional quality of life			✓
Economic diversification and resilience	✓	✓	✓

## 11.3 Final Strategic Recommendation

For the economic development portfolio in the Rio South Texas Region:

- 1. Pursue manufacturing investment as the primary economic growth engine**, targeting the \$1B competitive scenario as the near-term benchmark and the \$3B transformational scenario as the long-range aspiration. Manufacturing's 3.60x multiplier, supply chain depth, and high-wage direct employment make it the irreplaceable core of regional economic development.
- 2. Invest in warehousing and logistics infrastructure as a strategic enabler**, targeting \$200M–\$500M in cold-chain and general warehousing to create competitive logistics infrastructure that differentiates the region in manufacturing site selection. Warehousing's value is amplified by the manufacturing investment it enables.
- 3. Develop retail trade as quality-of-life and fiscal infrastructure**, targeting \$250M–\$750M in retail corridor and mixed-use commercial development. Retail's unique fiscal profile — highest local and state tax revenue of all three sectors — directly funds the public services that support

the entire economic portfolio. Its quality-of-life contribution attracts and retains the workforce populations that manufacturing and warehousing require.

4. **Recognize that the three sectors reinforce each other.** Manufacturing creates production and high wages; warehousing provides distribution; retail captures consumer demand and generates local fiscal capacity. A portfolio strategy that invests in all three creates a self-reinforcing regional economic ecosystem that is more resilient, more attractive to investors, and more beneficial to regional communities than any single-sector approach.
5. **Sequence investment to build from infrastructure to production to consumption:** warehousing first (logistics capacity), manufacturing second (production scale), and retail in parallel (quality of life and fiscal base) — creating a phased economic development pathway that builds capability at each stage.

## Appendix A: Complete Data Tables — Three-Sector Comparison

### A.1 Operations Phase Employment — All Scenarios

Scenario	Channel	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	Direct	1,250	1,250	1,250
	Indirect	2,693	237	193
	Induced	562	300	179
	<b>Total</b>	<b>4,505</b>	<b>1,786</b>	<b>1,622</b>
\$1B	Direct	2,500	2,500	2,500
	Indirect	5,387	473	387
	Induced	1,123	599	358
	<b>Total</b>	<b>9,010</b>	<b>3,573</b>	<b>3,245</b>
\$3B	Direct	7,500	7,500	7,500
	Indirect	16,160	1,420	1,160
	Induced	3,370	1,798	1,074
	<b>Total</b>	<b>27,031</b>	<b>10,718</b>	<b>9,734</b>

## A.2 Operations Phase Labor Income – All Scenarios

Scenario	Channel	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	Direct	\$71,751,877	\$70,153,276	\$41,510,419
	Indirect	\$76,948,280	\$10,914,075	\$6,839,848
	Induced	\$23,213,244	\$12,396,962	\$7,401,650
	<b>Total</b>	<b>\$171,913,401</b>	<b>\$93,464,313</b>	<b>\$55,751,918</b>
\$1B	Direct	\$143,496,144	\$140,306,552	\$83,020,838
	Indirect	\$153,887,028	\$21,828,151	\$13,679,696
	Induced	\$46,425,750	\$24,793,923	\$14,803,301
	<b>Total</b>	<b>\$343,808,921</b>	<b>\$186,928,626</b>	<b>\$111,503,835</b>
\$3B	Direct	\$430,488,431	\$420,919,655	\$249,062,514
	Indirect	\$461,661,083	\$65,484,453	\$41,039,088
	Induced	\$139,277,249	\$74,381,769	\$44,409,903
	<b>Total</b>	<b>\$1,031,426,762</b>	<b>\$560,785,877</b>	<b>\$334,511,506</b>



### A.3 Operations Phase GDP (Value Added) – All Scenarios

Scenario	Channel	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	Direct	\$103,939,516	\$74,157,824	\$87,186,811
	Indirect	\$145,120,774	\$16,397,129	\$12,029,813
	Induced	\$47,664,909	\$25,447,967	\$15,194,455
	<b>Total</b>	<b>\$296,725,199</b>	<b>\$116,002,920</b>	<b>\$114,411,079</b>
\$1B	Direct	\$207,819,560	\$148,315,648	\$174,373,623
	Indirect	\$290,217,077	\$32,794,258	\$24,059,627
	Induced	\$95,328,332	\$50,895,933	\$30,388,909
	<b>Total</b>	<b>\$593,364,969</b>	<b>\$232,005,840</b>	<b>\$228,822,159</b>
\$3B	Direct	\$623,458,680	\$444,946,945	\$523,120,868
	Indirect	\$870,651,232	\$98,382,775	\$72,178,880
	Induced	\$285,984,997	\$152,687,800	\$91,166,728
	<b>Total</b>	<b>\$1,780,094,908</b>	<b>\$696,017,519</b>	<b>\$686,466,475</b>



#### A.4 Operations Phase Total Output – All Scenarios

Scenario	Channel	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	Direct	\$597,123,519	\$114,645,525	\$134,093,345
	Indirect	\$307,156,768	\$35,151,976	\$31,096,390
	Induced	\$88,509,117	\$47,254,580	\$28,214,715
	<b>Total</b>	<b>\$992,789,404</b>	<b>\$197,052,082</b>	<b>\$193,404,449</b>
\$1B	Direct	\$1,194,057,775	\$229,291,051	\$268,186,690
	Indirect	\$614,267,379	\$70,303,952	\$62,192,779
	Induced	\$177,015,476	\$94,509,160	\$56,429,430
	<b>Total</b>	<b>\$1,985,340,630</b>	<b>\$394,104,163</b>	<b>\$386,808,898</b>
\$3B	Direct	\$3,582,173,326	\$687,873,152	\$804,560,069
	Indirect	\$1,842,802,137	\$210,911,857	\$186,578,337
	Induced	\$531,046,427	\$283,527,481	\$169,288,289
	<b>Total</b>	<b>\$5,956,021,890</b>	<b>\$1,182,312,489</b>	<b>\$1,160,426,695</b>

#### A.5 Annual Tax Revenue Comparison – \$1B Scenario

Jurisdiction	Manufacturing	Warehousing & Storage	Retail Trade
Sub-County General	\$5,205,681	\$1,574,446	\$5,514,691
Sub-County Special Districts	\$8,169,474	\$2,476,613	\$8,636,113
County	\$4,633,541	\$1,408,836	\$4,885,566
State	\$20,679,083	\$6,384,185	\$21,623,389
Federal	\$84,793,248	\$42,786,978	\$29,332,053
<b>Total</b>	<b>\$123,481,028</b>	<b>\$54,631,057</b>	<b>\$69,991,812</b>

## A.6 Annual Tax Revenue Comparison – All Scenarios

Scenario	Sector	Local+State Tax	Federal Tax	Total Tax
\$500M	Manufacturing	\$19,342,912	\$42,400,406	\$61,743,319
	Warehousing	\$5,922,040	\$21,393,489	\$27,315,528
	Retail	\$20,329,879	\$14,666,026	\$34,995,906
\$1B	Manufacturing	\$38,687,779	\$84,793,248	\$123,481,028
	Warehousing	\$11,844,080	\$42,786,978	\$54,631,057
	Retail	\$40,659,759	\$29,332,053	\$69,991,812
\$3B	Manufacturing	\$116,063,338	\$254,379,744	\$370,443,082
	Warehousing	\$35,532,237	\$128,360,933	\$163,893,170
	Retail	\$121,979,276	\$87,996,159	\$209,975,435

## A.7 Construction Phase Comparison – All Scenarios

Scenario	Metric	Manufacturing	Warehousing & Storage	Retail Trade
\$500M	Employment	3,538	7,012	3,118
	GDP	\$286.6M	\$455.3M	\$209.1M
	Output	\$744.9M	\$773.5M	\$538.2M
	Tax Revenue	\$60.1M	\$107.2M	\$47.8M
\$1B	Employment	7,075	14,024	6,235
	GDP	\$573.1M	\$910.7M	\$418.2M
	Output	\$1,489.9M	\$1,546.9M	\$1,076.4M
	Tax Revenue	\$120.1M	\$214.4M	\$95.6M
\$3B	Employment	21,227	42,071	18,706
	GDP	\$1,719.4M	\$2,732.0M	\$1,254.5M
	Output	\$4,469.8M	\$4,640.7M	\$3,229.1M
	Tax Revenue	\$360.4M	\$643.3M	\$286.7M

## A.8 Key Ratios and Multipliers – \$1B Reference Scenario

Metric	Manufacturing	Warehousing & Storage	Retail Trade
Employment multiplier	3.60x	1.43x	1.30x
Direct wage per job	\$57,398	\$56,123	\$33,208
Total labor income per direct job	\$137,524	\$74,771	\$44,601
Supply chain income per direct job	\$80,126	\$18,648	\$11,401
GDP per direct job	\$237,346	\$92,802	\$91,529
GDP per total job	\$65,856	\$64,940	\$70,516
Output per direct job	\$794,136	\$157,642	\$154,724
Total tax per direct job	\$49,392	\$21,852	\$27,997
Local+State tax per direct job	\$15,475	\$4,738	\$16,264
Local+State tax per total job	\$4,294	\$3,315	\$12,530

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