

15%

HEALTHCARE'S SHARE OF MSA
WORKER FLOW — AS ORIGIN

Hamilton County's largest shortage sector is also the Indianapolis MSA's #1 source of cross-sector worker movement. Shortage isn't a hiring problem — it's a retention problem too.

SECTORAL PERMEABILITY AUDIT

Where the Workers Move — and Where They Don't

A first-tier audit of cross-sector worker flow patterns in the Indianapolis MSA, with Hamilton County's four shortage sectors (Healthcare, Construction, Education, Public Administration) as the focal points. Built from Census Job-to-Job Flows 2020–2024 and QWI Hamilton hire patterns. Companion to Modules 2.1 (Retirement Bow Wave) and 2.2 (AI Exposure Index).

2.67M

5-YEAR MSA
WORKER FLOWS
(EES)

58.2%

CARRIED BY TOP 5
ORIGIN SECTORS

~3,549

ANNUAL HIRE
NEED ACROSS 4
SHORTAGE
SECTORS

SECTION 01

Can Hamilton County Reallocate Workers Between Sectors?

Modules 2.1 and 2.2 documented two structural pressures on Hamilton County's workforce: **21,893 retirement exits 2026–2032** (Path C, concentrated in Healthcare / Construction / Education / Public Administration) and **52,029 workers in occupations with significant generative-AI exposure** (concentrated in Finance / PBS / Information). The two stressors hit different sectors. The natural policy response is cross-sector reallocation — move AI-displaced workers into shortage sectors. This module asks whether the historical worker-flow data supports that possibility.

The Aidala-Ullrich anchor. The *Great Mismatch* empirical anchor was nursing: 68% of nurses enter the field directly from nursing training; 72% remain in nursing throughout their careers. That single illustration crystallized the reallocation friction problem. This audit looks for the equivalent pattern locally — across all four Hamilton County shortage sectors, using the data we have.

WHAT WE MEASURE

- **Origin-sector mix of MSA worker flow.** When workers change jobs in the Indianapolis MSA, what share come from each origin sector? This is the "supply pool" view.
- **Mobility rate per sector.** Annual worker outflow per 100 Hamilton County employees in each sector — how mobile is each sector's workforce?
- **Shortage-sector hire need.** Annual replacement demand in Healthcare, Construction, Education, and Public Administration (derived from Module 2.1 Path C retirement exits + standard turnover/growth factor).
- **Concentration of cross-sector flow.** What share of MSA flow is carried by the top 5 / top 10 origin sectors? The Aidala-Ullrich finding implies high concentration (most flow stays within a few sector clusters).

A DATA LIMITATION, SURFACED UPFRONT

The local Census J2J file provides origin-sector × all-destinations cuts (workers leaving sector X for any destination). It does *not* publish full sector × sector destination matrices for the Indianapolis MSA at the granularity we'd need to compute Aidala-Ullrich-style "X% of nurses come from nursing" figures destination-by-destination. This first-tier audit uses the data available; the destination-specific resolution (which sectors

capstone). The findings below are still operationally useful, but the report is honest about what the local data can and cannot say.

SECTION 02

Where Workers Move FROM

Of 2.67 million MSA worker job-changes (EES employer-to-employer stable flows) over 2020–2024, the top 5 origin sectors account for 58.2% of all movement. The top 10 account for 85.7%. The Indianapolis MSA labor market churns predominantly within a small set of sectors.

Health Care & Social Assistance (62)	396,090	14.85%
Administrative & Support / Waste (56)	367,673	13.78%
Retail Trade (44-45)	307,518	11.53%
Accommodation & Food Services (72)	280,030	10.50%
Transportation & Warehousing (48-49)	201,582	7.56%
Professional, Scientific & Technical (54)	187,425	7.03%
Manufacturing (31-33)	185,926	6.97%
Construction (23)	142,376	5.34%
Educational Services (61)	109,780	4.12%
Wholesale Trade (42)	107,060	4.01%
Finance & Insurance (52)	99,045	3.71%
Public Administration (92)	51,360	1.93%
Information (51)	33,795	1.27%

Red bars: shortage sectors. Gold: AI-exposed sectors (Bucket 2 from Module 2.2). All other sectors with 4%+ share shown in purple.

THE "LEAKY BUCKET" FINDING

Healthcare is simultaneously the #1 shortage destination *and* the #1 source of MSA worker movement. Healthcare workers leave their jobs at a rate that produces ~79,000 outflows per year MSA-wide — more than any other sector. This inverts the simple "Hamilton needs more healthcare workers" framing. The county doesn't only need more *hires*; it needs **retention**. The shortage is being deepened by attrition at the same time retirement exits add to it.

SECTION 03

Which Sectors Hold Workers? Which Sectors Lose Them?

Absolute outflow volumes are influenced by sector size. To compare sectors fairly, this section normalizes MSA outflow by Hamilton County employment (annual outflow per 100 Hamilton workers in each sector).

SECTOR	HAMILTON EMPLOYMENT 2023	ANNUAL MSA OUTFLOW	OUTFLOW PER 100 WORKERS/YR	BUCKET
Transportation & Warehousing	2,322	40,316	1,736	Steady (Bucket 3)
Administrative & Support, Waste	11,454	73,535	642	—
Manufacturing	8,168	37,185	455	—
Health Care & Social Assistance	22,127	79,218	358	Shortage (Bucket 1)
Retail Trade	17,523	61,504	351	Steady (Bucket 3)
Accommodation & Food Services	17,223	56,006	325	Steady (Bucket 3)
Construction	8,942	28,475	318	Shortage (Bucket 1)
Other Services (ex. Pub. Admin.)	4,791	14,428	301	—
Information	2,333	6,759	290	AI-exposed (Bucket 2)
Professional, Scientific & Technical	14,601	37,485	257	AI-exposed (Bucket 2)
Public Administration	4,474	10,272	230	Shortage (Bucket 1)
Educational Services	10,950	21,956	201	Shortage (Bucket 1)
Finance & Insurance	15,834	19,809	125	AI-exposed (Bucket 2)
Utilities	1,084	1,225	113	—

THE BUCKET 2 STICKY WORKERS

Finance & Insurance has the **lowest mobility rate** among the AI-exposed sectors at 125 outflows per 100 workers/year — about half the MSA average. Information (290) and PBS (257) are also below the high-churn sectors. The Aidala-Ullrich reallocation friction thesis predicts exactly this pattern: when AI displaces these workers, history suggests they will *not* easily move to other sectors. The behavioral default is to stay, not to switch.

THE EDUCATION SEAL

Educational Services at 201 outflows per 100 workers/year is the most sealed shortage sector — second-lowest mobility in the inventory after Finance. Teachers, school administrators, and education-support workers do not churn into other sectors at meaningful rates. This validates the "nursing equivalent" finding for K-12 education: the credentialing barriers (Indiana teaching license, content-area certification, background checks) create one-way doors.

SECTION 04

The Replacement Task

Combining Module 2.1 Path C annualized retirement exits with a conservative 30% retirement-share-of-total-hires assumption (industry-standard turnover figure includes voluntary quits, terminations, and sectoral growth) yields the annual hire need for each shortage sector.

SHORTAGE SECTOR	HAMILTON EMP 2023	ANNUAL RETIREMENT HIRES	ANNUAL TOTAL HIRES (EST.)	OUTFLOW RATE /100/YR
Health Care & Social Assistance	22,127	486	1,621	358
Educational Services	10,950	244	814	201
Construction	8,942	210	701	318
Public Administration	4,474	117*	~413	230
TOTAL	46,493	1,057	3,549	—

* Public Administration retirement estimate uses Path A (national share) because Lightcast omits the 92 NAICS sector. Total annual hires assume retirement = 30% of total hire need (turnover + growth = 70%).

The cumulative replacement task. Across the four shortage sectors, Hamilton County employers need to fill roughly **3,549 jobs per year** to maintain current staffing levels — about 21,300 jobs over the 2026–2032 window. Roughly 30% of that demand (1,057/year) is created by retirement; the remaining 70% (2,492/year) is created by voluntary turnover, terminations, and sectoral growth. The retirement bow wave is the visible part; ordinary turnover is the larger structural challenge already in place.

WHAT THIS MEANS FOR CREDENTIALING PIPELINE CAPACITY

Ivy Tech Community College's Hamilton County-serving programs (RN, LPN, CNA, electrical apprenticeship, HVAC, welding, early childhood education) plus the K-12 teacher-prep pipelines (IUI, Ball State, Marian, Butler) must collectively produce **3,549 credentialed workers per year** directable into Hamilton employers to hold current

staffing flat. Today's actual pipeline output across these programs is materially smaller. The credentialing gap — not the worker-aspirant gap — is the operational bottleneck.

SECTION 05

Six Findings That Compound

The Modules 2.1, 2.2, and 2.3 results together support six interlocking findings that should shape IHC's program portfolio and the conversation with regional credentialing partners.

FINDING 1 — REALLOCATION IS NOT THE SILVER BULLET

The MSA worker flow data does not support an optimistic "AI-displaced Finance and PBS workers will move into Healthcare and Construction" thesis. Finance & Insurance has the lowest mobility rate in the inventory (125/100/year). Workers in AI-exposed sectors are sticky. Even if AI displaces them, the historical behavioral default is to stay in sector or leave the labor force, not to switch to a shortage sector.

FINDING 2 — HEALTHCARE IS A LEAKY BUCKET

Healthcare is simultaneously the largest shortage destination and the largest source of MSA worker outflow (14.85% of all MSA flow). The shortage isn't only a recruiting problem — it's a retention problem too. Programs that improve healthcare worker retention may have higher leverage than programs that only add new entrants.

FINDING 3 — EDUCATION IS SEALED

Educational Services has the lowest mobility rate among shortage sectors (201/100/year). Credentialing barriers (Indiana teaching license, background checks, content-area certifications) create one-way doors. Pell-funded short-term credentials are not a viable pathway here — K-12 teaching needs a 4-year degree path. Alternative-route licensure programs become the policy lever.

FINDING 4 — CONSTRUCTION'S PIPELINE IS THE TRADES PIPELINE

Construction's mobility rate is moderate (318/100/year) but skilled-trades credentialing is the binding constraint. Hamilton County's 217 active development projects in Fishers alone (per the city's open data portal) and continued housing buildout in Westfield/Noblesville mean construction hire need likely exceeds the conservative 701/year estimate. Apprenticeship pipeline capacity, not interest, is the gating factor.

FINDING 5 — PUBLIC ADMINISTRATION IS THE QUIET EMERGENCY

County, municipal, and school-district government workforce faces a 16.6% six-year retirement exit rate (Path A) — the highest among shortage sectors. There is no consumer market signal to attract replacements; replacement is entirely through deliberate hiring by elected officials and HR departments. The retirement bow wave in this sector is invisible in

employer surveys because the employers are governments. This finding should reach the Hamilton County Commissioners and the four municipal city managers.

FINDING 6 — TOTAL ANNUAL REPLACEMENT TASK IS STRUCTURAL, NOT CYCLICAL

The 3,549 jobs/year across the four shortage sectors compounds over the 2026–2032 window into roughly 21,300 jobs. This is not a cyclical labor market problem solved by raising wages or improving recruiting. It is a credentialing-pipeline capacity problem requiring multi-year, multi-partner program design. The Workforce Pell Alignment Protocol (drafted May 2026, this directory: `ihc-internal/governance/Workforce_Pell_Alignment_Evaluation_Protocol_2026.md`) is the operational framework. Module 2.4 (capstone) builds the multi-year scenario.

SECTION 06

Methodology & Caveats

METHOD

1. **Data sources.** Census Job-to-Job Flows (J2J) Origin-Destination, MSA 26900 ByIndustry file, 2020–2024 (5 years, post-pandemic stable). Census Quarterly Workforce Indicators (QWI) Hamilton County, 2019–2024. Module 2.1 Path C retirement exit projections. BLS QCEW Hamilton 2023 sectoral employment.
2. **Filter.** J2J rows filtered to: ind_level_orig='S' (2-digit NAICS sectors), all demographics aggregated (sex='0', agegrp='A00', race='A0', ethnicity='A0', education='E0'), all firm dimensions aggregated. EES (Employer-to-Employer Stable) flows summed across 20 quarters.
3. **Mobility rate.** Annual MSA outflow ÷ Hamilton sectoral employment × 100 = outflow per 100 Hamilton workers per year. Note: this attributes MSA-wide outflow to Hamilton's sectoral share of MSA employment, which assumes Hamilton workers move at MSA rates. Hamilton's higher-income demographic likely has slightly different mobility than MSA average; refinement requires Hamilton-only J2J pulls.
4. **Hire need.** Annual retirement hires = Module 2.1 Path C exits ÷ 6 years. Total annual hires = retirement hires ÷ 0.30 (assumes retirement = 30% of total hire need; standard BLS turnover decomposition).
5. **Public Admin caveat.** Lightcast Industry Demographics Table omits NAICS 92, so Module 2.1 Path C has no Public Admin retirement exits. The Path A national-share estimate (704 exits over 6 years; 117/year) is used as the fallback.

KNOWN DATA LIMITATIONS

1. **No destination-specific sector × sector matrix.** The local J2J file provides origin-sector × all-destinations cuts only. We cannot directly compute "what share of nurses come from nursing" destination-by-destination, which is the precise Aidala-Ullrich-style finding. Full destination-side resolution requires (a) Lightcast Origin-Destination pull or (b) Census API call with `ind_level='S'` AND `ind_level_orig='S'` for both sides. Both options are tractable and queued for Module 2.4.
2. **MSA proxy for Hamilton flows.** J2J publishes at MSA-26900 level; we apply MSA mobility rates to Hamilton sectoral employment. Hamilton's white-collar, high-income demographic likely has slightly different cross-sector mobility than the MSA average. This is a known approximation.
3. **EES vs. AQHire decomposition.** EES (Employer-to-Employer Stable) is used as the cross-sector worker flow proxy. AQHire (All-Quarter Hire) includes new entrants from unemployment / non-

employment / out-of-labor-force, which is a different population. EES is the right measure for sectoral reallocation specifically; AQHire would over-count.

4. **5-year window choice (2020–2024).** Covers the COVID-19 displacement and recovery period plus 2 stable years. This is post-pandemic data only; pre-pandemic baselines (2015–2019) would shift the absolute volumes but the relative sectoral patterns are stable across windows.

ANALYSIS CODE: `hamilton-implementation/analyses/permeability-audit-2026/analysis.py`.

RESULTS: `results.json, origin_sector_mix.csv`.

SOURCES: Census J2J OD `hamilton-implementation/data/federal/Census-J2J/J2J_OD_MSA_26900_ByIndustry.csv.gz`; QWI Hamilton; QCEW Hamilton 2023; Module 2.1 Path C results.

MASTER PLAN: `ihc-internal/strategy-internal/Hamilton_County_Great_Mismatch_Local_Study_Plan_2026.md`. This is Module 2.3 of four.

APPENDIX A · INTERNAL PROPOSAL DRAFT

Co-Brand Proposal — IHC × Ivy Tech Community College

Convert the Great Mismatch series Module 2.3 work into a jointly-published institutional research product. Confidential internal draft for Mike Thibideau (IHC) review prior to outreach.

This appendix exists because the Module 2.3 scope decisions surfaced a strategic question worth its own treatment: should the Permeability Audit and the broader Great Mismatch series be developed as IHC-only IP, or jointly developed and jointly branded with Ivy Tech Community College? Mike's interim answer was **IHC-only for now, with a proposal drafted for the co-brand path**. This is that draft.

WHY THE CO-BRAND PATH IS WORTH CONSIDERING

- 1. Ivy Tech is the credentialing partner for every restructure target in the Workforce Pell Inventory.** The 4 shortage sectors in this audit (Healthcare, Construction, Education, Public Administration) all flow through Ivy Tech short-term credentials or Ivy Tech transfer pathways. A co-branded research product creates a shared evidence base for joint program design.
- 2. Distribution leverage.** Ivy Tech has statewide reach (19 campuses). A co-branded Great Mismatch study positions both organizations as the analytical authority on Indiana workforce reallocation. IHC's brand benefits from the institutional reach; Ivy Tech's brand benefits from the analytical depth.
- 3. Funding alignment.** Workforce Pell rule (effective 2026-07-20) creates federal funding for short-term credentials at accredited institutions. A jointly-published analytical case for which Indiana high-demand sectors should prioritize Workforce Pell certification supports Ivy Tech's Governor-approval applications and IHC's role as the demand-evidence partner.
- 4. Module 2.4 needs Lightcast Origin-Destination data.** Lightcast licensing for joint research products may have favorable terms vs. IHC-only use. The co-brand path may unlock methodological resolution we cannot easily get under IHC-only licensing.

WHY THE IHC-ONLY PATH IS THE CURRENT DEFAULT

- 1. Speed and editorial control.** IHC-only allows Mike to publish Modules 2.1–2.4 on IHC's timeline without joint-review cycles. The first-tier audit (Modules 2.1 and 2.2) is already in market; co-branding would require retroactive negotiation.

2. **Positioning clarity.** IHC is positioning the Data Hub as Hamilton County's analytical authority. Co-branding with Ivy Tech blurs the source attribution for downstream stakeholders (commissioners, city partners, employers).
3. **Capstone (Module 2.4) is the natural inflection point.** The capstone is the institutional asset most worth co-branding — if at all. Modules 2.1–2.3 establish the analytical platform; Module 2.4 is where co-branding adds the most leverage at the lowest editorial cost.

PROPOSED SCOPE OF A CO-BRAND STUDY

COMPONENT	IHC-ONLY BASELINE	CO-BRAND EXPANSION
Geography	Hamilton County + Indianapolis MSA	+ Indiana statewide rollup (Ivy Tech's 19-campus reach)
Credentialing pipeline data	Public sources (IPEDS, Census PSEO)	+ Ivy Tech program-level enrollment and completion data (proprietary)
Outcome data	Census J2J + Lightcast Career-Pathways	+ Ivy Tech Career Coach (UI wage record linkage at completer level)
Capstone scope	"The County That Built the Mismatch" (Hamilton-only narrative)	+ "Indiana's Mismatch: An Evidence Base for Workforce Pell Approvals" (statewide policy document)
Publication channels	investhamiltoncounty.com	+ Ivy Tech research distribution + Indiana DWD / Governor's Workforce Cabinet briefings
Joint IP ownership	—	50/50 with named attribution, jointly executive-edited

RECOMMENDED OUTREACH PATH (IF ACCEPTED)

1. **Initial conversation (Q3 2026):** Mike → Christina Collins (Ivy Tech) re: the Great Mismatch series and co-branding the capstone. Bring Modules 2.1–2.3 finished products as the analytical demonstration.
2. **Scoping memo (Q3 2026):** Joint scoping memo defining (a) authorship attribution, (b) editorial control, (c) data-sharing scope, (d) publication timeline, (e) any IP carve-outs (Hamilton-specific analytical methods stay IHC).
3. **Pilot integration (Q4 2026):** Add Ivy Tech program-level enrollment/completion data to Module 2.4 scenario inputs. Test integration before formal co-branding commitment.
4. **Joint publication (Q1 2027):** Module 2.4 capstone published as IHC × Ivy Tech, timed against Indiana 2027 long-session legislative cycle.

DECISION POINT FOR MIKE

No action required from this appendix beyond awareness that the option exists. The status quo (IHC-only) holds until the capstone (Module 2.4) is in advanced draft. At that point, Mike can decide whether to convert Module 2.4 specifically into a co-brand or

keep the entire Great Mismatch series IHC-only. Modules 2.1, 2.2, and 2.3 are already in IHC-only form regardless.

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