Economic & International Development

Proposal

Emerging Industries + Skill Gap AI

Executive Summary

The City of El Paso is undertaking a strategic initiative to identify a new, high-potential industry that can drive future economic growth, diversify the local economy, and create quality jobs. This effort aligns national labor market projections with El Paso's existing strengths in workforce, infrastructure, and industry.

Using employment and output forecasts from the U.S. Bureau of Labor Statistics (2023–2033), the project will analyze which industries are emerging nationwide and assess how well they align with El Paso's current capabilities and future readiness. The analysis will also evaluate growing occupations tied to these industries, required skill sets, and potential for local workforce adaptation.

Objectives

1. **Identify Emerging Industries Nationwide.**
    - Analyze U.S. Bureau of Labor Statistics employment and output projections (2023–2033) to determine which industries are growing most rapidly in terms of job creation, economic output, and wage potential.
2. **Analyze High-Growth Occupations and Skill Requirements.**
    - Examine the fastest growing and most in-demand occupations tied to emerging industries, including required education and training levels, to understand workforce implications.
3. **Assess El Paso's Current Economic and Workforce Landscape.**
    - Use local data (County Business Patterns, QCEW, education pipeline data) to build a profile of El Paso's existing industries, workforce characteristics, and infrastructure.
4. **Match National Trends with Local Capacity.**
    - Determine which emerging industries are most compatible with El Paso's current strengths by assessing overlaps in skill sets, infrastructure readiness, and industry foundations.
5. **Identify Transition Pathways.**
    - Highlight realistic "bridge industries" that can evolve from El Paso's existing sectors to meet future demand in new, adjacent markets.

Scope of Work

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The Emerging Industries Skill Gap AI will address the following key components:

1. Data Collection and Integration

- **National Industry Data:**
  - Analyze U.S. Bureau of Labor Statistics projections
  - Extract industry employment growth, output projections, and emerging occupations
  - Identify associated wage levels and education/training requirements
- **Local Industry and Workforce Data:**
  - Collect El Paso-specific industry data using County Business Patterns
  - Profile current employment by NAICS codes
  - Assess postsecondary education and CTE program outputs from UTEP, EPCC, and training providers.
- **Crosswalk and Compatibility Framework**:
  - Use mappings to link occupations to industries
  - Identify shared skill sets and education levels
  - Flag industries with skill/infrastructure compatibility

2. Industry Fit Modeling and Analysis

- **Occupation-to-Industry Matching**
  - Map high-growth occupations to El Paso's current and potential industries
  - Cluster similar occupations into broader industry sectors
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  - Develop a scoring matrix to rank industries based on:
    - Employment growth
    - Output growth
    - Local capacity and workforce readiness
    - Infrastructure availability
- **Transition Pathway Identification**
  - Identify “bridge industries” that can evolve from current El Paso strengths
  - Suggest upskilling or reskilling opportunities for smoother workforce transitions

3. Decision-Support Dashboard and Final Recommendations

- **Interactive Dashboard for Decision-Makers**
  - Visualize emerging industry rankings and fit scores.
  - Display workforce readiness by skill cluster and geography.
  - Include filters for industry, wage level, education, and infrastructure needs

Data Requirements

- **National Employment Projection Data:**
  - Industry-level employment and output forecasts.
  - Occupation-level growth rates, job creation volumes, and wage data.
  - Mapping of occupations to industry sectors.
- **Historical Data:**
  - Local employment trends by industry.
  - Labor force participation and unemployment rates in El Paso
  - Graduation and certification data from UTEP, EPCC, and local CTE programs
  - Skill inventories from workforce surveys and academic institutions

Expected Impact

1. Economic Growth: Equip the workforce with skills to support emerging industries, enhancing business attraction and retention.
2. Workforce Empowerment: Provide training opportunities to underserved communities, reducing unemployment and wage gaps.
3. Data-Driven Policy: Enable informed decision-making for workforce development initiatives.
4. Future-Proofing: Prepare El Paso's workforce for technological advancements and automation trends.

Timeline

Month 1: Project Setup & Data Collection
• Finalize scope and deliverables
• Collect national BLS data (Tables 2.11, 1.3, 1.4)
• Begin gathering local workforce, education, and industry data (CBP, QCEW, IPEDS, UTEP, EPCC)

Month 2: National Trend Analysis
• Analyze emerging industries by employment and output growth
• Identify high-growth occupations and skill requirements
• Map occupations to industries using SOC–NAICS crosswalk

Month 3: Local Industry & Workforce Profiling
• Analyze El Paso's existing industry mix and employment trends

• Map local workforce capacity and education pipelines
• Compile geospatial data on training centers, employer clusters, and infrastructure

Month 4: Industry Fit & Opportunity Analysis
• Score and rank emerging industries based on local compatibility
• Identify transferable skills and potential transition industries
• Conduct skill gap and infrastructure readiness analysis

Month 5: Stakeholder Engagement & Validation
• Conduct interviews and feedback sessions with workforce board, Chamber, educational institutions, and employers
• Validate findings and refine scoring model and recommendations

Month 6: Final Recommendations & Reporting
• Deliver final report with 1–2 strategic industry recommendations
• Provide supporting data, justifications, and readiness roadmap
• Create one-page executive summary and presentation materials