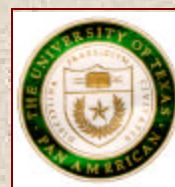


The Economic Impact of Worker Displacement in the U.S.-Mexico Border Region



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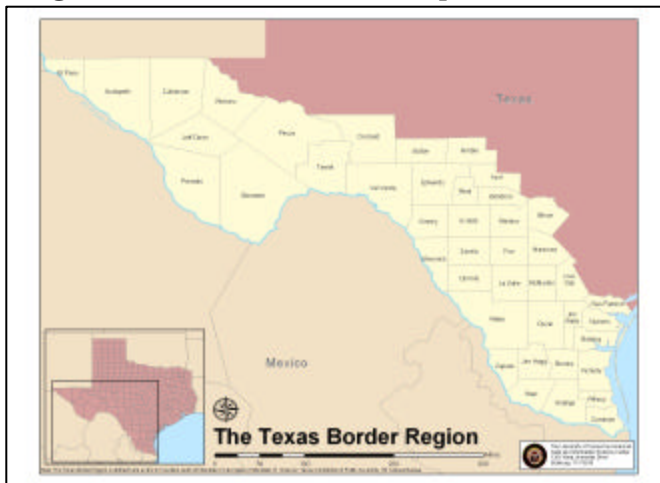
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I. Introduction

According to unpublished data from the Dislocated Worker Unit of the Texas Workforce Commission, during the 2001 calendar year 16,881 workers lost their jobs in the border area as a result of dislocation/displacement. Border communities affected by plant closings are unique since this is a region with very high unemployment rates, low per capita income levels and distinctive training and education needs (TCPA, 2001). Dislocated workers in border communities not only need basic education and job-specific training but they are also in need of effective English language courses that are tailored for specific jobs (TDED, 2000).

This study evaluates the economic impact of job displacement on workers and their communities. An economic impact analysis is conducted using input-output modeling to shed light on the direct, indirect and induced effects

Figure 1. Texas-Mexico Border Map



of worker displacement in local communities. Direct effects refer to the output or employment losses due to displacement. Indirect effects are those due to lost inter-industry purchases in the local industries and induced effects account for output/employment losses due to lost household

income. More specifically, the study looks at the output, employment and fiscal impact of plant closings in the 43-county Texas-Mexico border region, as defined by the Texas Comptroller of Public Accounts (TCPA, 2001; See Figure 1).

The results suggest that the economic impact of displacement is substantial. The loss of 16,881 jobs resulted in an additional loss of 11,327 jobs via indirect and induced reductions in output. Thus, on average for every

three local jobs lost due to displacement an additional two local jobs are lost due to indirect/induced effects resulting from reduced spending. In terms of total employment losses, the hardest hit counties are Bexar, El Paso, Nueces, Hidalgo and Cameron. These four counties account for 90 percent of the total employment losses related to displacement in the 43-county sub-border region. However, when it comes to the share of indirect/induced employment losses out of total employment, the hardest hit counties are Nueces (69.3 percent), Kerr (50 percent) and Bexar (40.8 percent). About 40.2 percent of total employment losses related to job displacement are due to indirect/induced losses.

The paper is organized as follows. Section II presents background information on displacement, particularly its importance and consequences along the Texas-Mexico border region. Section III presents the input-output methodology. Section IV discusses the data and the results and Section V presents some concluding remarks and public policy recommendations.

II. Background

According to recent data from the Current Population Survey's Displaced Workers Supplement, over the 1999-2001 period about 4.0 million U.S. workers who held their jobs for at least three years lost them due to either plant closings or relocations, a 22 percent increase from the previous survey period. In addition, another 6.0 million workers were displaced from jobs that they have had for less than three years (BLS, 2002). Thus, close to 10 million workers lost their jobs over the 1999-2001 period compared to only 7.6 million during the 1997-1999 period. Increasing displacement can be mostly attributed to the recession that the U.S. economy began experiencing in March 2001.

In 1993, the U.S. Congress established the North American Free Trade Agreement-Transitional Adjustment Assistance Program (NAFTA-TAA). Like the more general TAA program, the NAFTA-TAA program provides

funding for retraining, income support and job-search/re-employment services to workers that have lost their jobs due to trade but specifically with Canada and Mexico (TWC, 2000).

The state of Texas has been particularly affected by plant closings because displaced workers have relatively low levels of education and work experience and, hence, they are in need of more retraining and work-related education. In FY1999, the state of Texas received roughly \$32 million in TAA and NAFTA-TAA funds and state officials argue that more funding is needed. According to the Texas TAA and NAFTA-TAA 2000 Annual Report released by the Texas Workforce Commission, workers are particularly in need of language and vocational training programs that develop basic skills since these programs enhance employability and promote learning (TWC, 2000).

During the 1988-2001 period 14,744 workers employed in 144 plants located in border Workforce Development Areas (WDA's) lost their jobs due to dislocation/displacement. Most of this impact was in the Upper Rio Grande WDA (6,984 workers), the Lower Rio Grande Valley WDA (3,073 workers) and the Cameron County WDA (1,886 workers). This WDA's include the major border metropolitan areas of El Paso, McAllen and Brownsville. These border communities have the highest unemployment rate and the lowest per capita income in the state of Texas (TCPA, 2001).

The economic and social impact of plant closings in local communities can be devastating. This is particularly the case in the Texas-Mexico border region, because this region is experiencing unprecedented population growth together with increasing demands for social services and infrastructure. Displaced workers in the border also have relatively low rates of re-employment and employment retention, and only about 38% of them are able to earn more after re-employment (TWC, 2000).

Although there are federal and state programs in place to assist displaced/dislocated workers, there are relatively few studies analyzing whether these programs are effective in terms of providing workers with the

skills necessary to earn a high income. Most programs concentrate in worker retraining and basic education, but there is a need to assess which specific programs are effective and which programs can be identified as “models” that can be expanded and emulated in other communities. Thus, training dollars can be reallocated towards programs that are deemed to be effective.

LaLonde (1995) points out that little research has been conducted on the impact and effectiveness of public sector-sponsored programs. This lack of studies is even more evident for dislocated workers because policymakers have instead placed more emphasis on programs helping the economically disadvantaged instead of the displaced. LaLonde’s (1995) most substantive finding is that job search assistance is a cost-effective approach to helping displaced workers. This is the case because it has been shown that those receiving job search assistance have higher earnings because they find a job faster than nonparticipants with similar skills. He also suggests that classroom assistance and short-term training strategies may not be very effective. Indeed, he points out that there are high long-term benefits from completing “relatively rigorous vocational and academic community college level courses.”

LaLonde’s (1995) work and those of others clearly point out the need for a thorough assessment of worker training and education programs. Moreover, there are no studies that analyze whether other approaches—such as providing funding to displaced workers to start their own business—are effective.

There are also no studies that assess the impact of worker displacement using interdisciplinary approaches. That is, displacement not only affects workers in terms of lost income and bleak employment prospects, but it also impacts families and how they cope with daily life, as well as communities through lost income and distress. In addition, there are indirect economic and non-economic impacts of displacement that are rarely evaluated and that can be best analyzed interdisciplinary.

In what follows, this study concentrates on strictly the economic impact of displacement using input-output modeling. This is the case because this approach can shed light on the direct, indirect and induced effects of worker displacement in local communities. Direct effects refer to the output or employment losses due to displacement. Indirect effects are those due to lost inter-industry purchases in the local industries and induced effects account for output/employment losses due to lost household income.

III. Methodology

Input-output analysis is a technique that is used to examine the economic linkages and exchanges between businesses and consumers in a given area. The model employed here captures the flow of dollars from purchasers to producers within a region using inter-industry transaction information for more than 500 industries. Production functions describing how much is spent in each industry (and the proportions) are created using inter-industry transaction data. A predictive model, and the associated multipliers, can then be constructed to show how output will change with a change in final demand.

The model is estimated using the IMPLAN database and input-output modeling system (MIG, 2000). The predictive modeling is based on type SAM multipliers, which use information on inter-institutional transfers to capture commuting, social security tax payments, household income taxes and savings. This model is used to estimate induced effects (Alward and Lindall, 1996).

Three types of effects—direct, indirect and induced—can be estimated using multipliers. Direct effects are changes in the industries in which a final demand change occurred. For example, a direct economic effect would be the expenses associated with employing a given number of workers in a plant located along the border.

Indirect effects are changes in inter-industry purchases resulting from changes in the industries directly affected by a final demand change. For example, an indirect effect occurs when a supplier to a local business increases its purchases of goods and services from other local businesses. By adding all these exchanges, then the total indirect effects are estimated.

Lastly, induced effects are changes in inter-industry purchases resulting from household spending. This spending comes from household income generated from direct and indirect effects.

IV. Data and Results

	Direct	Indirect	Induced	Total
Atascosa	\$2.19	\$0.27	\$0.33	\$2.78
Bexar	\$325.40	\$121.58	\$104.34	\$551.32
Cameron	\$24.80	\$12.17	\$8.28	\$45.25
El Paso	\$195.87	\$70.09	\$54.91	\$320.86
Hidalgo	\$53.74	\$20.66	\$15.53	\$89.93
Jim Wells	\$0.52	\$0.05	\$0.08	\$0.65
Kerr	\$4.15	\$2.86	\$1.56	\$8.57
Maverick	\$12.87	\$4.65	\$2.79	\$20.31
Medina	\$8.23	\$2.11	\$1.73	\$12.07
Nueces	\$111.22	\$70.94	\$32.15	\$214.32
Real	\$2.16	\$0.14	\$0.32	\$2.62
Reeves	\$28.51	\$9.58	\$3.03	\$41.12
San Patricio	\$4.14	\$0.32	\$0.77	\$5.23
Uvalde	\$2.42	\$0.77	\$0.57	\$3.76
Val Verde	\$0.30	\$0.04	\$0.04	\$0.38
Webb	\$0.56	\$0.05	\$0.11	\$0.72
Zavala	\$0.33	\$0.07	\$0.02	\$0.42
TOTAL	\$777.42	\$316.34	\$226.56	\$1,320.32

The data utilized in this study comes from the WARN Act notifications received of plant closures and/or layoffs. These notifications count the expected number of affected workers and provide a reasonably accurate picture of the total number of displaced workers at the county level. The WARN Act notifications include the company name, the local workforce development area, city, county, date of notification, layoff date and the number of dislocated workers.

The results reported here pertain to data for the 2001 calendar year, which is the most recently available full year data. For the purposes of this study, the Texas-Mexico border region includes 43 counties located South of Interstate 10 and West of Interstate 37 (out of 254 Texas counties). This is the definition employed by the Texas Comptroller of Public Accounts (TCPA, 2001). Although the region encompasses 43 counties, many of these counties are rural and only 17 counties experienced job displacements during the 2001

	Direct	Indirect	Induced	Total
Atascosa	\$1.27	\$0.18	\$0.18	\$1.63
Bexar	\$207.10	\$81.92	\$59.64	\$348.66
Cameron	\$19.11	\$7.51	\$4.70	\$31.32
El Paso	\$129.60	\$44.33	\$30.69	\$204.62
Hidalgo	\$40.29	\$13.09	\$8.90	\$62.28
Jim Wells	\$0.28	\$0.03	\$0.04	\$0.36
Kerr	\$3.94	\$1.95	\$0.86	\$6.75
Maverick	\$9.99	\$2.84	\$1.57	\$14.41
Medina	\$7.24	\$1.33	\$0.85	\$9.42
Nueces	\$56.65	\$41.73	\$18.14	\$116.52
Real	\$2.02	\$0.06	\$0.16	\$2.24
Reeves	\$13.81	\$5.84	\$1.68	\$21.33
San Patricio	\$3.87	\$0.17	\$0.39	\$4.44
Uvalde	\$1.70	\$0.45	\$0.30	\$2.45
Val Verde	\$0.16	\$0.02	\$0.02	\$0.21
Webb	\$0.33	\$0.03	\$0.06	\$0.42
Zavala	\$0.26	\$0.05	\$0.02	\$0.33
TOTAL	\$497.63	\$201.54	\$128.22	\$827.39

calendar year. As such, the disaggregated results at the county level only refer to these 17 counties.

Tables 1 through 3 report the economic impact of losing 16,881 full-time equivalent jobs as a result of displacement/dislocation, in terms of value added, labor income and employment. The losses were estimated utilizing county-level input-output models.

Table 1 shows that the direct value added losses amount to \$777.42 million USD, and that indirect and induced losses increase the direct negative economic impact by an additional \$316.34 and \$226.56 million USD, respectively. Most of this value added impact occurs in counties which experience the largest employment losses; namely, Bexar, El Paso, Hidalgo, Cameron and Nueces. Total value added includes employee

	Direct	Indirect	Induced	Total
Atascosa	33	4.7	7.8	45.5
Bexar	6593	2365.9	2175.3	11134.2
Cameron	1018	288.5	214.1	1520.6
El Paso	4836	1525.5	1272.6	7634.1
Hidalgo	1674	478.6	397.9	2550.5
Jim Wells	25	1.1	2	28.1
Kerr	100	64.2	37.8	202
Maverick	598	103.6	79.5	781.1
Medina	245	52.4	43.2	340.6
Nueces	784	1053.5	718.2	2555.7
Real	66	2.5	8.6	77.1
Reeves	731	276	96.6	1103.7
San Patricio	86	6.2	18.1	110.3
Uvalde	75	16.6	14.5	106.1
Val Verde	13	0.9	1.1	15
Webb	21	1.1	2.5	24.6
Zavala	16	8	0.8	24.8
TOTAL	16,881	6,244	5,083	28,208

compensation, self-employment income, property type income and indirect business taxes (i.e., excise taxes, property taxes, fees and sales taxes paid by businesses).

Table 2 reports that the total labor income losses amount to \$827.39 million USD (\$497.63 million USD directly, \$201.54 indirectly and \$128.22 induced). Total labor income includes employee compensation (wages/salaries plus benefits) as well as income earned by the self-employed.

Table 3 reports that a loss of 16,881 direct jobs generated additional employment losses in local communities of 11,327 workers (6,244 indirectly

and 5,083 induced).

On average, for every three local jobs lost due to displacement an additional two local jobs are lost due to indirect/induced effects resulting from reduced spending. In terms of

total employment losses, the hardest hit counties are Bexar, El Paso, Nueces, Hidalgo and Cameron. These four counties account for 90 percent of the total employment losses

related to displacement in the 43-county sub-border region. However, when it comes to the share of indirect/ induced employment losses out of total employment, the hardest hit counties are Nueces (69.3 percent), Kerr (50 percent) and

Value Added (Million USD)				
Sector	Direct	Indirect	Induced	Total
Agriculture	\$0.14	\$1.74	\$0.75	\$2.63
Mining	\$10.47	\$6.24	\$1.27	\$17.99
Construction	\$8.23	\$12.25	\$3.29	\$23.77
Manufacturing	\$364.92	\$40.37	\$6.38	\$411.67
Transportation, Construction and Utilities	\$92.58	\$56.34	\$16.51	\$165.43
Trade	\$112.13	\$55.96	\$70.21	\$238.30
Finance, Insurance and Real Estate	\$50.84	\$40.87	\$61.13	\$152.84
Services	\$137.67	\$94.75	\$61.61	\$294.03
Government	\$0.43	\$7.82	\$4.26	\$12.51
Other	\$0.00	\$0.00	\$1.14	\$1.14
Total	\$777.42	\$316.34	\$226.56	\$1,320.32

Labor Income (Million USD)				
Sector	Direct	Indirect	Induced	Total
Agriculture	\$0.11	\$1.24	\$0.52	\$1.88
Mining	\$3.82	\$2.08	\$0.46	\$6.36
Construction	\$7.24	\$11.38	\$3.16	\$21.78
Manufacturing	\$229.85	\$24.37	\$3.96	\$258.17
Transportation, Construction and Utilities	\$51.85	\$30.85	\$7.99	\$90.68
Trade	\$66.02	\$32.88	\$42.56	\$141.46
Finance, Insurance and Real Estate	\$43.68	\$15.44	\$12.93	\$72.05
Services	\$94.73	\$76.41	\$52.23	\$223.36
Government	\$0.34	\$6.90	\$3.27	\$10.51
Other	\$0.00	\$0.00	\$1.14	\$1.14
Total	\$497.63	\$201.54	\$128.22	\$827.39

Employment (Number of Jobs)				
Sector	Direct	Indirect	Induced	Total
Agriculture	9	116	42	167
Mining	50	27	6	83
Construction	245	330	97	672
Manufacturing	7668	622	119	8409
Transportation, Construction and Utilities	1287	688	170	2145
Trade	2230	992	2039	5261
Finance, Insurance and Real Estate	1255	506	395	2156
Services	4126	2832	2004	8962
Government	12	131	73	216
Other	0	0	137	137
Total	16881	6244	5083	28208

Bexar (40.8 percent). About 40.2 percent of total employment losses related to job displacement are due to indirect/induced losses.

Tables 4 through 6 report the results of adding up the county results and then disaggregating them by industry. Again, the results are reported in terms of lost value added, labor income and employment. All the three tables show that the direct effects of displacement concentrate in the manufacturing sector followed by services and trade. However, the indirect effects are more spread out, and they substantially affect transp./const./utilities, trade, finance/insurance/real estate and manufacturing. The induced effects are mostly felt in trade, finance/insur./real estate and services.

These results point out that although job displacement directly impacts the manufacturing and services sectors particularly hard, there are also other important sectors of the local economies that are substantially affected by job dislocation. Thus, when one looks at the economic impact of displacement we must not only assess the direct impact but also the indirect/induced multiplier effects.

	Atascosa	Bexar	Cameron	El Paso	Hidalgo	Jim Wells	Kerr	Maverick	Medina	Nueces	Real
Transfers	\$1.37	\$274.17	\$2705	\$169.24	\$53.20	\$0.28	\$5.89	\$12.46	\$5.98	\$87.15	\$1.55
Total	\$1.37	\$274.17	\$2705	\$169.24	\$53.20	\$0.28	\$5.89	\$12.46	\$5.98	\$87.15	\$1.55
Federal Government NonDefense	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Corporate Profits Tax	\$32.16	\$12,184.79	\$549.64	\$7,211.23	\$1,023.11	\$7.37	\$75.62	\$380.10	\$91.10	\$6,299.07	\$20.55
Indirect Bus Tax: Custom Duty	\$10.79	\$1,308.06	\$51.48	\$598.90	\$142.47	\$2.27	\$11.28	\$18.87	\$11.92	\$486.39	\$1.98
Indirect Bus Tax: Excise Taxes	\$36.88	\$4,469.20	\$175.88	\$2,046.25	\$486.76	\$7.76	\$38.53	\$64.46	\$40.74	\$1,661.84	\$6.76
Indirect Bus Tax: Fed NonTaxes	\$8.88	\$1,076.42	\$42.36	\$492.85	\$117.24	\$1.87	\$9.28	\$15.52	\$9.81	\$400.26	\$1.63
Personal Tax: Income Tax	\$167.36	\$34,510.25	\$3,262.41	\$21,080.58	\$6,522.49	\$36.64	\$619.09	\$1,630.56	\$1,027.25	\$11,161.31	\$214.05
Personal Tax: NonTaxes (Fines-Fees)	\$1.87	\$386.41	\$36.53	\$236.04	\$73.03	\$0.41	\$6.93	\$18.26	\$11.50	\$124.97	\$2.40
Social Ins Tax: Employee Contribution	\$89.67	\$17,979.76	\$1,591.80	\$10,418.37	\$3,125.41	\$23.09	\$363.58	\$658.66	\$434.21	\$6,010.85	\$108.21
Social Ins Tax: Employer Contribution	\$82.20	\$15,319.18	\$1,479.66	\$9,292.23	\$2,870.19	\$20.80	\$343.42	\$605.01	\$285.04	\$4,885.22	\$79.74
Total	\$429.82	\$87,234.06	\$7,189.76	\$51,376.44	\$14,360.71	\$100.21	\$1,467.73	\$3,391.43	\$1,911.57	\$31,029.90	\$435.31
State/Local Govt NonEducation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Dividends	\$0.04	\$15.62	\$0.70	\$9.25	\$1.31	\$0.01	\$0.10	\$0.49	\$0.12	\$8.08	\$0.03
Indirect Bus Tax: Motor Vehicle Lic	\$3.60	\$335.21	\$18.58	\$169.83	\$49.09	\$0.91	\$3.93	\$7.54	\$4.95	\$120.80	\$0.88
Indirect Bus Tax: Other Taxes	\$31.24	\$2,912.96	\$161.42	\$1,475.81	\$426.59	\$7.95	\$34.19	\$65.55	\$43.06	\$1,049.71	\$7.62
Indirect Bus Tax: Property Tax	\$167.30	\$15,598.96	\$864.41	\$7,902.96	\$2,284.37	\$42.57	\$183.11	\$350.99	\$230.57	\$5,621.23	\$40.81
Indirect Bus Tax: S/L NonTaxes	\$17.38	\$1,620.84	\$89.82	\$821.17	\$237.36	\$4.42	\$19.03	\$36.47	\$23.96	\$584.09	\$4.24
Indirect Bus Tax: Sales Tax	\$230.17	\$21,461.41	\$1,189.27	\$10,873.08	\$3,142.89	\$58.57	\$251.93	\$482.91	\$317.22	\$7,733.82	\$56.15
Indirect Bus Tax: Severance Tax	\$6.03	\$562.01	\$31.14	\$284.73	\$82.30	\$1.53	\$6.60	\$12.65	\$8.31	\$202.53	\$1.47
Personal Tax: Motor Vehicle License	\$2.23	\$459.61	\$43.32	\$280.03	\$86.44	\$0.49	\$8.24	\$21.33	\$13.61	\$148.63	\$2.79
Personal Tax: NonTaxes (Fines- Fees)	\$5.63	\$1,190.46	\$105.56	\$708.76	\$208.29	\$1.18	\$21.11	\$46.88	\$34.06	\$382.12	\$6.44
Personal Tax: Other Tax (Fish/Hunt)	\$0.38	\$78.88	\$7.44	\$48.06	\$14.84	\$0.08	\$1.41	\$3.66	\$2.34	\$25.51	\$0.48
Personal Tax: Property Taxes	\$0.82	\$174.44	\$15.47	\$103.85	\$30.52	\$0.17	\$3.09	\$6.87	\$4.99	\$55.99	\$0.94
Social Ins Tax: Employee Contribution	\$0.62	\$71.92	\$12.96	\$63.79	\$28.81	\$0.13	\$2.14	\$8.87	\$4.01	\$23.77	\$0.90
Social Ins Tax: Employer Contribution	\$2.53	\$291.45	\$22.53	\$258.52	\$116.74	\$0.51	\$8.67	\$35.95	\$16.24	\$96.34	\$3.65
Total	\$467.97	\$44,773.78	\$2,592.60	\$22,999.85	\$6,709.54	\$118.54	\$543.55	\$1,080.15	\$703.43	\$16,052.62	\$126.40
Total	\$899.16	\$132,282.01	\$9,809.41	\$74,545.53	\$21,123.46	\$219.03	\$2,017.18	\$4,484.03	\$2,620.99	\$47,169.67	\$563.27

Lastly, Table 7 reports the results of tax impact analyses conducted at the county level. About \$98.93 million USD are lost in state and local taxes due to the total displacement-related job losses, most of it in the form of property and sales taxes. Thus, there is a substantial fiscal impact associated with displacement that certainly affects the provision of public services in the localities most affected by displacement.

V. Concluding Remarks

Close to 17,000 workers in 2001 lost their jobs as a direct result of dislocation or displacement in the 43-county Texas-Mexico border region. Border communities affected by plant closings are unique since this is a region with very high unemployment rates, low per capita income levels and distinctive training and education needs. Dislocated workers in border communities not only need basic education and job-specific training but they are also in need of effective English language courses.

This study assessed the economic impact of job displacement along the border by conducting an economic impact analysis to shed light on the direct, indirect and induced effects of worker displacement in border counties. The results suggest that the economic impact of displacement is substantial. For every three local jobs lost due to displacement an additional two local jobs are lost due to indirect/induced effects resulting from reduced spending. Roughly two-fifths of total employment losses related to displacement are due to indirect/induced employment losses.

There are other important ways in which communities and families are affected by displacement but were not evaluated here. For example, displaced workers not only face bleak reemployment prospects but also reduced earnings and benefits. These economic changes also lead to health problems, family instability and lost self-esteem. Thus, policy initiatives that target displaced workers should not only address re-training and re-employment, but also the negative social consequences of displacement. Systemic, region-

specific approaches are needed to address the needs of communities that have been most impacted by job displacement.

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