ECOnorthwest

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Regional Minimum Wage Economic Analysis for Five Boulder County Municipalities

Prepared for: The Boulder County Minimum Wage Economic Study Scoping Team, Consisting of the Cities of Boulder, Longmont, Louisville, and Lafayette, and the Town of Erie

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Executive Summary

The federal minimum wage, last updated in 2009, has been significantly eroded by inflation, especially during the high inflation periods of 2021 and 2022. Many states and local jurisdictions have set higher minimum wages to address regional cost of living differences. After the 2019 passage of HB19-1210, five municipalities in Boulder County—Boulder, Erie, Lafayette, Longmont, and Louisville—are considering the option of higher local minimum wages. ECOnorthwest was engaged to analyze the potential economic impacts of such wage increases.

Relying on the best available research literature while acknowledging limitations in available data, ECOnorthwest conducted the analyses described below and in the full study report. Study components include existing conditions analysis for the five study municipalities, a comparative analysis of other localities that have increased their minimum wage, a literature review, a regional minimum wage impact analysis, and an analysis of responses to categorical and quantitative questions from the minimum wage questionnaire conducted by the municipalities. An equity framework guided our analytical decision making.

Recommendations

The economic impacts associated with increasing the minimum wage are best viewed as a set of trade-offs to individuals, businesses, governments, and the community. As such, an optimal minimum wage target should consider the full set of benefits and costs, as well as their size and distribution, because the benefits and costs can differ in magnitude and apply to different people. Moreover, an optimal minimum wage target depends on the preferences of a community. These preferences are critical because policymakers have to assign a relative value or weight to each trade-off, implicitly or explicitly, to determine which policy option is best for their community. Notably, communities can differ with respect to what minimum wage policy has the highest net positive impact, not just because of any community-specific costs and benefits, but also because of the preferences and values of the people living in the community. In short, no minimum wage target is universally optimal; the optimal target is a matter of identifying, quantifying, and then weighing the various trade-offs.

In light of this reality, ECOnorthwest presents the following recommendations regarding the minimum wage target, escalation schedule, and indexing mechanism. Additional information is provided in the full report.

- *Recommendation #1: Under the assumption that the five municipalities are interested in raising their minimum wages above Colorado's, two factors—a slower ramp-up and consistency with Unincorporated Boulder County—lead us to recommend Scenario B2, where the regional minimum wage reaches that of Unincorporated Boulder County in*

2035. The slower ramp-up period of Scenario B2 relative to Scenario B1 provides a degree of predictability and certainty that would allow individuals, businesses, and governments to adapt to the new economic landscape with minimal disruption. And narrowing, and then eliminating, the gap in wages between Unincorporated Boulder County and the five municipalities over the long term would help increase the consistency of the economic landscape across the region.

- *Recommendation #2: Conduct a mid-cycle evaluation of Scenario B2 in 2030 to assess the degree to which the benefits and costs of the higher minimum wage have come to fruition.* To the extent that the anticipated outcomes fall short of expectations, the planned escalation in the minimum wage could be adjusted between 2030 and 2035.
- *Recommendation #3: Index the minimum wage annually based on the regional Consumer Price Index for All Urban Consumers (CPI-U) in the Denver-Aurora-Lakewood area.* The goal of wage indexing is to keep worker compensation in line with other changes in the regional economy, particularly price increases.

Existing Conditions

Socioeconomic conditions in the five municipalities and the broader region are essential context for the minimum wage impact analysis and ultimate policy design. The analysis includes macroeconomic indicators such as population growth, unemployment, and inflation, as well as more-detailed examinations of employment, worker, and household characteristics.

Economic Conditions

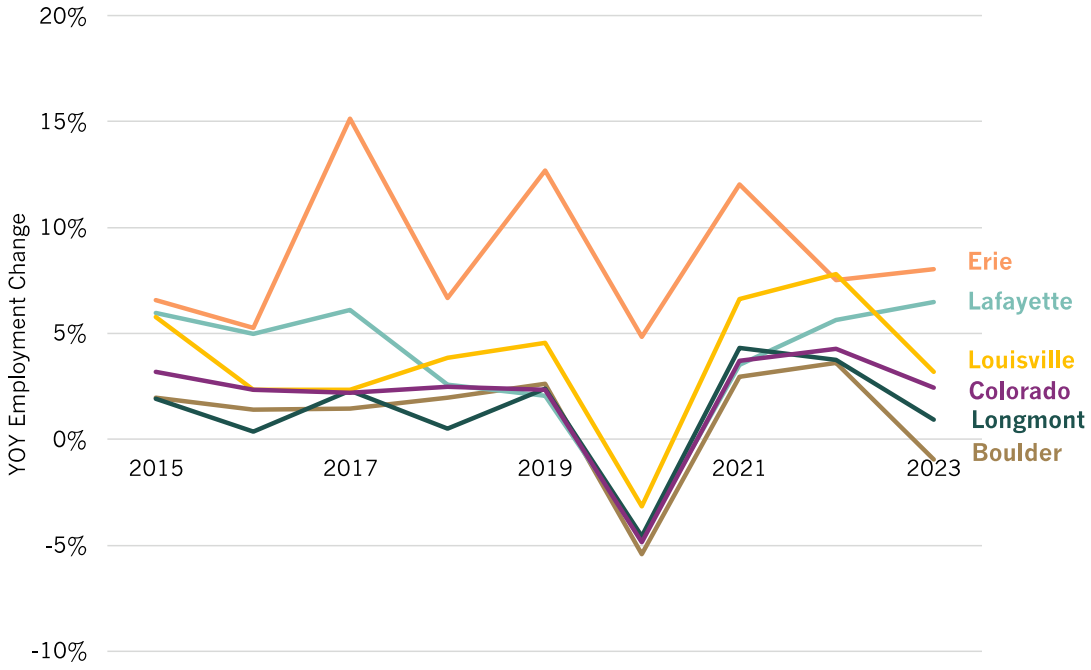
Recent trends in the economic conditions of the analysis region, and the nation, have been marked by the COVID-19 pandemic recession of 2020. Macroeconomic indicators, including GDP, inflation, and employment, were all negatively affected in 2020. The five municipalities show trends similar to the state and nation, with positive trends during the 2010s interrupted by the COVID-19 economic shock.

One key indicator of macroeconomic conditions is changes in employment (see ES-Exhibit 1). Between 2014 and 2023, three of the five municipalities had higher annual average employment growth than the statewide average (1.6 percent), with Boulder and Longmont as the exceptions. Induced by the COVID-19 pandemic recession and following state and national trends, employment declined across municipalities in 2020, by up to 5.4 percent, in Boulder. Erie employment has had an average annual growth rate of 8.7 percent, consistent with the town's rapid population growth over the same period.

Sales and other retail-based taxes (local government revenues) are another key indicator that could be affected by a minimum wage increase. We examined the extent to which municipality general fund revenues depend on sales tax revenue (from 40 to 66 percent of municipalities' general funds in FY2024) and, where data were available, we assessed the share of municipality sales tax revenue garnered from industries most affected by minimum

wage increases, such as food service, lodging, and retail (from 58 to 65 across municipalities). Our impact analysis modeling suggests very small potential effects of a minimum wage increase on local sales tax revenue.

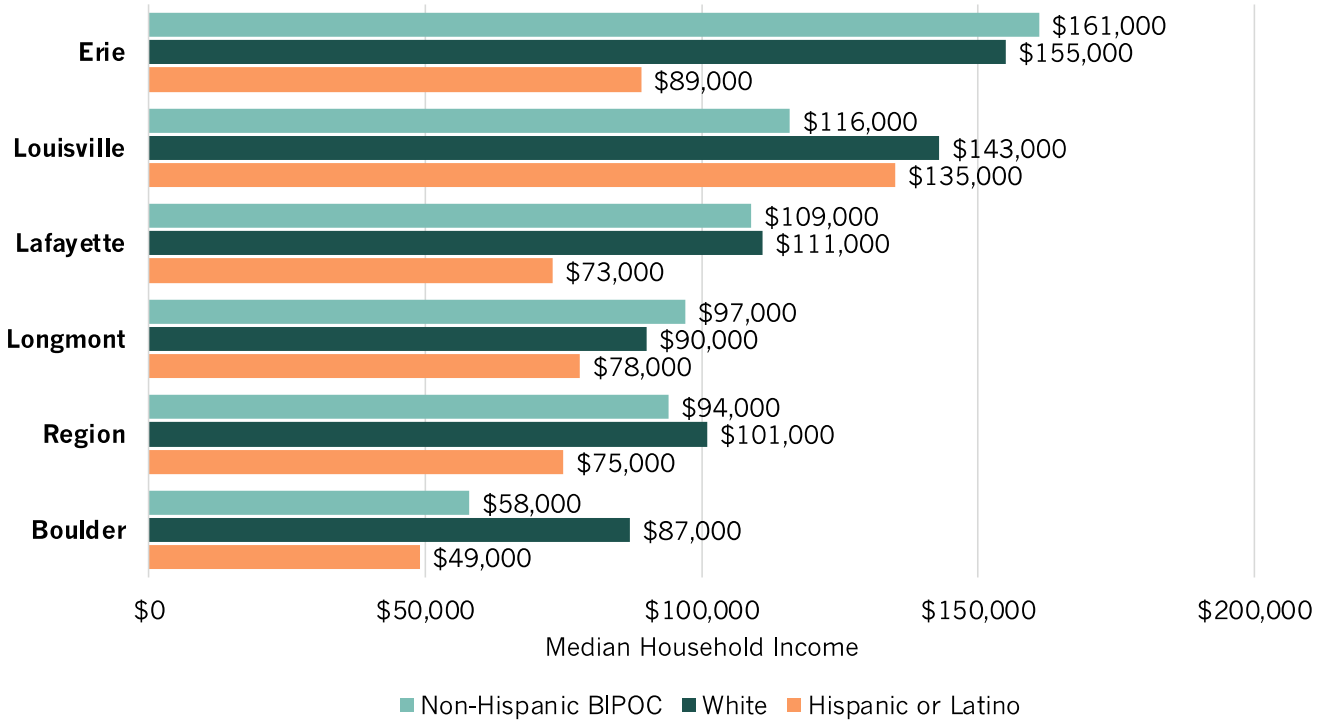
ES-Exhibit 1. Year-Over-Year Change in Employment



Data source: Colorado Department of Labor and Employment, 2014-2023

At the household level, median income informs us of the overall economic condition of residents of the municipalities and region. Boulder has a median household income below the statewide average of $87,600, likely due to the large college student population in the city. Erie and Louisville have the highest median household incomes, approximately $154,500 and $135,800, respectively. ES-Exhibit 2 illustrates the range of incomes by race/ethnicity across the municipalities and region. The variation and ranges suggest which subpopulations in which municipalities may be most affected by a minimum wage increase.

ES-Exhibit 2. Median Household Income by Race/Ethnicity



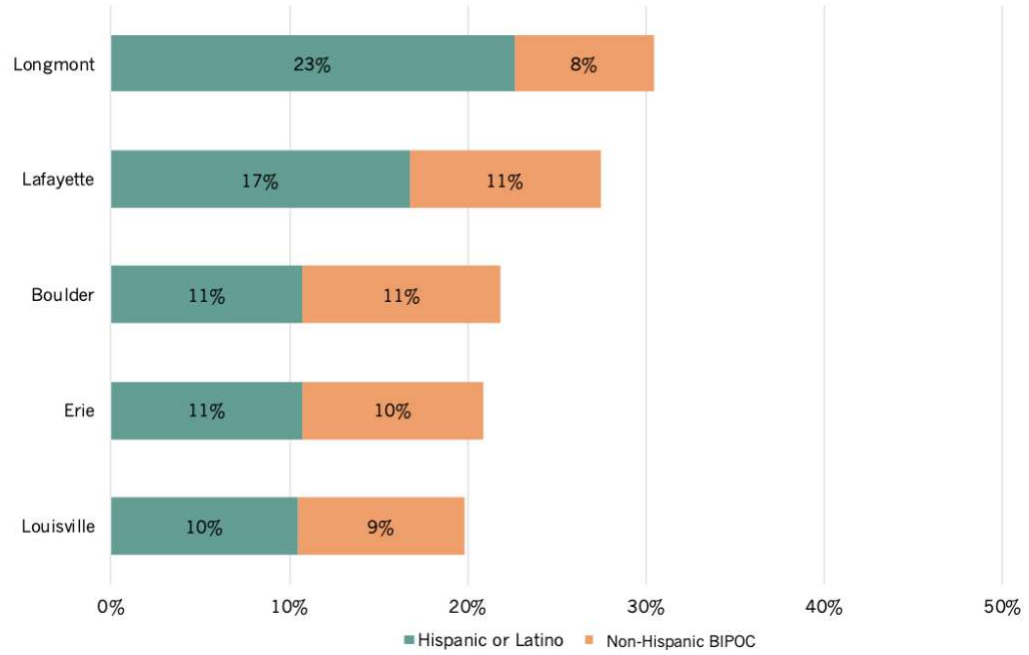
Data source: U.S. Census Bureau, American Community Survey, 2022 5-year estimates

Employment and Industry

Compared to Colorado, the five municipalities have relatively concentrated employment in high-skill industries such as professional and technical services, high-tech manufacturing, healthcare, and information. Additionally, private educational services are concentrated in Boulder and Longmont. Most working residents in the five municipalities commute elsewhere in Colorado or Boulder County and thus would not directly benefit from local minimum wage increases. However, low-income workers are slightly more likely to work within their municipality of residence (28 percent compared to 22 percent of all workers). An increased minimum wage would also help low-wage workers who live outside the five municipalities if they work in one of the five municipalities.

Roughly one third of workers across the study municipalities work in low-wage industries, and nearly half work in low-wage occupations. While one quarter of all workers in the region identify as BIPOC, a disproportionate share of workers in low-wage occupations identify as BIPOC, and most low-wage BIPOC workers are Hispanic or Latino. ES-Exhibit 3 shows the share of each municipality that is Hispanic or Latino or non-Hispanic BIPOC, reflecting differences in subpopulations that may be disproportionately affected by a minimum wage increase. Low-wage industries and occupations also have differential shares by gender: women make up the majority of low-wage-industry workers, while a higher share of low-wage-occupation workers identify as men.

ES-Exhibit 3. Share of Population that is Hispanic or Latino or Non-Hispanic BIPOC, by Municipality



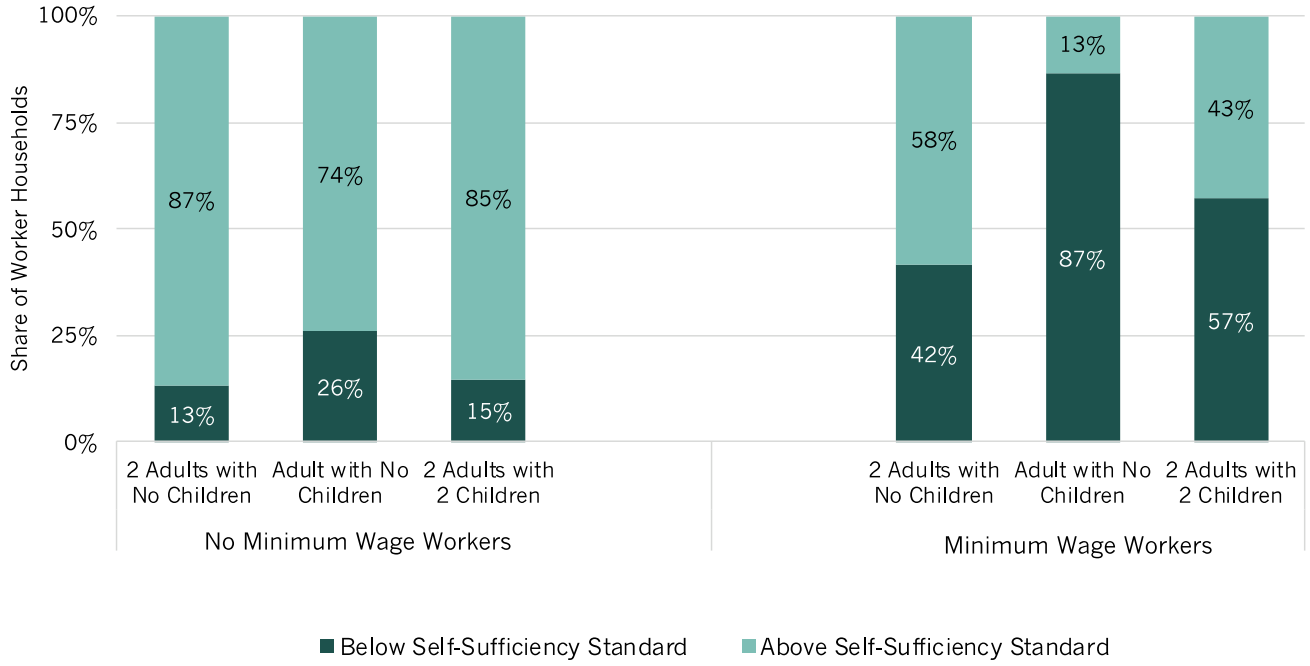
Data source: U.S. Census Bureau, American Community Survey, 2022 5-year estimates

Wage Distribution and the Minimum Wage

Approximately one in three workers in the region earn below $25 per hour and one in ten earn below $15 per hour. Workers earning below $15 per hour account for a disproportionately high number of hours worked, indicating that lower-wage workers typically work longer hours than their higher-wage counterparts.

Our analysis examines the distribution of minimum wage workers and their household income relative to the Boulder County Self-Sufficiency Standard (SSS). Approximately 56 percent of households that have at least one minimum wage worker (righthand set of columns in ES-Exhibit 4) have income below the SSS, compared to 18 percent of households without minimum wage workers (lefthand set of columns).

ES-Exhibit 4. Share of Households with Income Below and Above the Self-Sufficiency Standard, by Household Type



Note: "Minimum wage" defined here as estimated hourly wages below $15
Data source: U.S. Census Bureau, American Community Survey, 2022 5-year estimates

Tipped workers earning the minimum wage represent an important part of the minimum wage workforce. Data limitations prevented the impact analysis from estimating effects for these workers, but available data provide context for understanding potential impacts. Tipped workers, who in Colorado receive no less than $11.40 per hour from employers if they earn at least $3.02 per hour in tips, face a generally higher poverty rate (12.8 percent) compared to the overall workforce (6.7 percent) at the national level. Most tipped workers are aged 20 to 39 and have relatively low educational attainment, and BIPOC individuals constitute a larger share of this group. If Colorado's tip credit remains at $3.02, the subminimum wage would get proportionately closer to the standard minimum wage over time.

Comparative Analysis

In exploring the impacts of local minimum wage increases, we analyzed ten cities and counties that implemented wages above federal and state requirements (see ES-Exhibit 5). These regions were chosen for their similarity in population, industry makeup, and demographics to our study municipalities. Data collected before and after the wage increases offered insights into economic trends. Most municipalities indexed their minimum wages to inflation, with regional trends often guiding adjustments. While some employed caps to moderate rapid increases during periods of high inflation, others used more-intricate methods tying wages to local unemployment rates; these lacked clear information about effectiveness. Our high-level characterization of outcomes for the ten cities and counties that

enacted local minimum wage increases suggests that doing so does not necessarily lead to large, negative economic effects.

ES-Exhibit 5. Change in Economic Conditions after Minimum Wage Increase Relative to State Change

Cities	AAGR (to full wage)	Unemployment Rate Trend Relative to Statewide Trend	Poverty Rate Trend Relative to Statewide Trend	Labor Force Participation Rate Relative to Statewide Trend	Employment Growth Rate Trend Relative to Statewide Trend
Flagstaff, AZ	8%	2.70	NA	-1.30	0.00
Alameda, CA	12%	0.80	0.30	0.20	-0.01
Milpitas, CA	13%	1.50	-0.70	7.60	0.29
San Mateo, CA	14%	1.50	3.30	2.20	0.04
Santa Clara, CA	14%	2.90	5.00	0.70	0.04
Cook County, IL	12%	-0.70	-1.10	0.60	0.01
Montgomery County, MD	7%	0.80	0.60	-0.50	-0.01
Minneapolis, MN	14%	1.50	-4.80	1.10	0.02
Santa Fe County, NM	42%	-3.40	-2.30	-2.20	-0.01
Seattle, WA	16%	1.10	0.00	0.10	0.04

Data sources: U.S Census Bureau, American Community Survey, 2022 1-year estimates, Table DP03_0002P, DP03_0009P, DP03_0003, and DP03_0119P, Various Years; UC Berkeley Inventory of US City and County Minimum Wage Ordinance

Our findings suggest that while cities and counties with higher minimum wages differed markedly from their counterparts, the economic repercussions were generally modest. Changes in unemployment, poverty rates, and employment levels varied compared to state averages, reflecting localized economic conditions.

Literature Review

The study's literature review provides a summary of recent research on the minimum wage, with a focus on economic impacts. It both informs the impact analysis and provides context for interpreting the results of the analysis. The following are highlights from decades of minimum wage research:

- **Employment:** A rich body of research on the impact of a minimum wage increase on aggregate employment shows a complex set of dynamics, however the overall consensus indicates limited negative impacts on aggregate employment.
- **Capital Investment:** One explanation for the limited employment impacts of a minimum wage increase is that employment effects are short term, and employers can and will shift towards more capital-intensive (less labor-intensive) operations over the long term.

- **Prices:** In the traditional economic framework, wage increases lead to higher prices, and recent empirical research provides evidence that minimum wage increases are passed on to consumers, however the estimated effects on price are relatively small.
- **Business Productivity:** Current research indicates both positive and negative effects on business productivity, depending on firm size and industry, across varying metrics such as worker productivity, firm revenue, and product quality.
- **Poverty and Income Inequality:** For low-income workers, researchers have found that a minimum wage increase can reduce income inequality, as well as racial and gender wage gaps. Other effects, both positive and negative, have been documented, including improved social and health outcomes for children, low-income workers commuting to areas with higher minimum wages, and diminished access to jobs for workers without a high school diploma.

In sum, over the past three decades, economists have studied the myriad and sometimes counterintuitive impacts of raising the minimum wage. The understandable initial focus on employment has expanded to include impacts on capital investment, prices, business productivity, poverty, inequality, and beyond. This rich body of academic literature reveals a complex picture. What is clear from the literature is that the often assumed simple, direct relationship between increases in the minimum wage and reductions in employment is overly simplistic. Research has shown that increases in the minimum wage can have both positive and negative impacts of varying degrees on a wide array of economic outcomes over different time horizons.

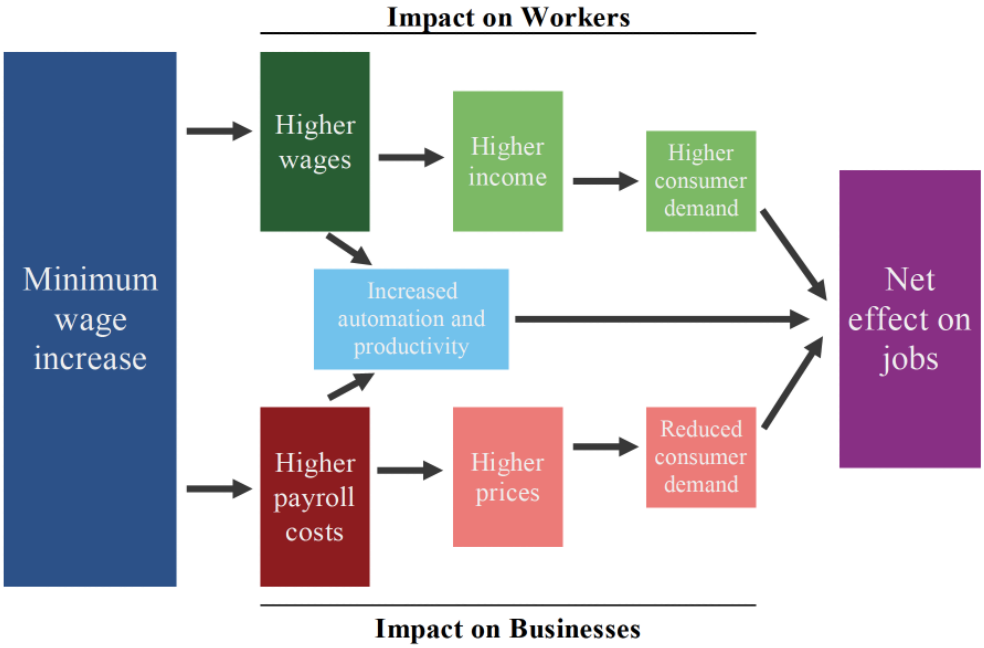
Regional Minimum Wage Impact Analysis

The economic impacts associated with increasing the minimum wage are best viewed as trade-offs—a set of benefits and costs to individuals, businesses, local governments, and society as a whole. Most obviously, the main benefit of increasing the minimum wage is an increase in income among low-wage workers. The trade-offs that accompany this benefit are well documented and span many dimensions: employment, prices, operating costs, productivity, poverty, and inequality. Estimating the magnitude of these trade-offs has been and continues to be the subject of rich debate among economists. For the purposes of our analysis, we take these different perspectives into account, and present estimates based, generally, on median impacts across a diverse set of published research. Importantly, we take a holistic approach and consider not just the immediate response of employers to higher labor costs, but also the broader economic impacts of low-wage workers' higher incomes.

Our framework is based on the University of California, Berkeley's Institute for Research on Labor and Employment (IRLE) minimum wage model. The impacts of raising the minimum wage are multifaceted, necessitating a comprehensive framework like the IRLE model to analyze the net effects on employment, business viability, and economic dynamics across various scenarios. The model takes into account direct and indirect impacts of increasing

the minimum wage on both workers and businesses, including increased automation and productivity, to estimate the net effect on employment (see ES-Exhibit 6).

ES-Exhibit 6. Analysis Framework – The Berkeley IRLE Minimum Wage Model for the Effect of Increases in the Minimum Wage on Workers and Businesses



Source: Reich, M. Allegretto, S., Jacobs, K. and Montialoux, C. (2016). "The Effects of a $15 Minimum Wage in New York State." Berkeley, CA: Institute for Research on Labor and Employment.

Scenarios

The Regional Minimum Wage Impact Analysis focuses on four scenarios, with each evaluated relative to the existing Colorado minimum wage ($14.42 in 2024). We assume a 3 percent annual increase to the Colorado minimum wage, based on historical inflation trends, resulting in an estimated wage of $19.96 in 2035. Two other current-law policies informed scenario development, those for Denver and Unincorporated Boulder County.

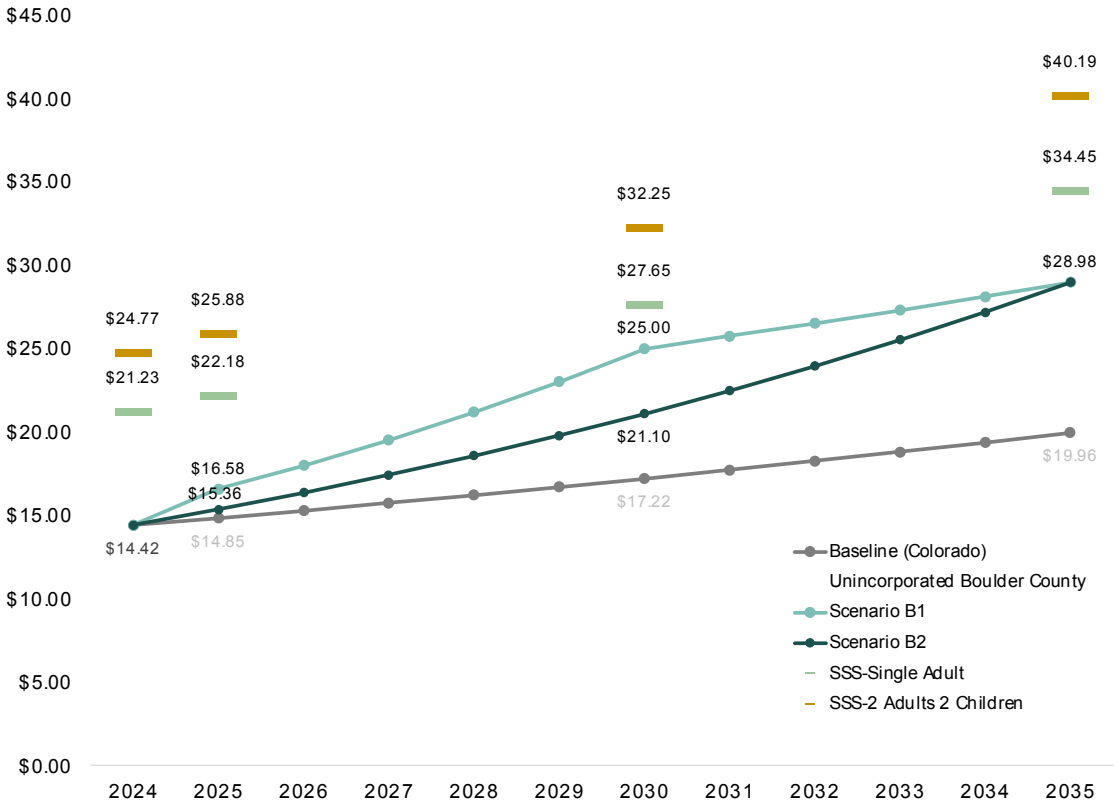
Although not used in the modeling, we also project the Boulder County SSS for two representative household types (single adult and two adults with two school-aged children) out to 2035 based on historical growth of the SSS and current inflationary trends (3 percent per year). As shown in ES-Exhibits 7-8, the current-law minimum wage policies currently reach between 58 percent (Colorado) and 86 percent (Denver) of the projected SSS for selected household types. By 2035, they reach between 50 percent (Colorado) and 84 percent (Unincorporated Boulder County) of the projected SSS.

Each of our four scenarios begins with Colorado's minimum wage in 2024 of $14.42. Two are designed to reach Unincorporated Boulder County's minimum wage, one as soon as possible under existing law (a maximum 15-percent increase per year) (Scenario B1) and the other in 2035 (Scenario B2). The remaining two scenarios are designed to reach

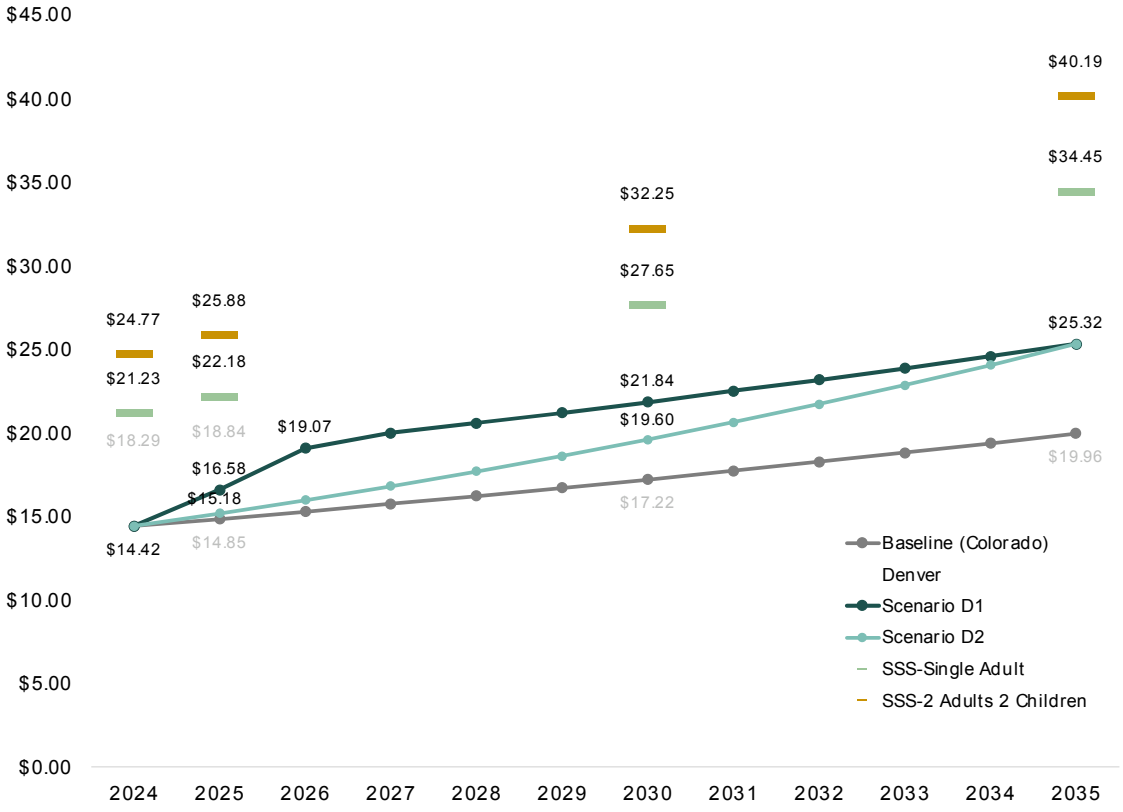
Denver's minimum wage, one as soon as possible (Scenario D1) and the other in 2035 (Scenario D2).

By 2030, the Unincorporated Boulder County-based scenarios reach between 65 and 90 percent of projected SSS for selected household types. By 2035, the scenarios reach between 72 and 84 percent of the projected SSS. By 2030, the Denver-based scenarios reach between 61 and 79 percent of projected SSS for selected household types. By 2035, they range from 63 to 74 percent of the projected SSS.

ES-Exhibit 7. Minimum Wage Scenarios for Reaching Unincorporated Boulder County's Minimum Wage, 2024-2035



ES-Exhibit 8. Minimum Wage Scenarios for Reaching Denver's Minimum Wage, 2024-2035



Findings

We assessed impacts for each scenario relative to the status quo (the Colorado minimum wage). The report provides impact results for each individual municipality, where possible, as well as for all five combined.

Select Effects of Modeled Minimum Wage Increases

ES-Exhibit 9 shows the number of employees across the five municipalities that would be laid off due to the minimum wage increase at 2030 levels. Under all scenarios, teenagers and young adults are most likely to be affected by job loss due to a minimum wage increase. Scenario B1 employment loss is the highest compared to other scenarios in 2030, due to the comparatively faster minimum wage increase rate. Overall, the Unincorporated Boulder County-based scenarios are associated with higher employment loss compared to the Denver-based scenarios.

ES-Exhibit 9. Change in Employment Relative to Baseline, 2030

SCENARIO	TEENAGERS & YOUNG ADULTS	ADULTS	ALL WORKERS	IMPACT AS A SHARE OF CURRENT EMPLOYMENT
Scenario B1	-1,755	-282	-2,037	-1.0%
Scenario B2	-1,057	-167	-1,224	-0.6%
Scenario D1	-1,266	-167	-1,433	-0.7%
Scenario D2	-635	-97	-732	-0.4%

Source: ECOnorthwest analysis. Colorado Department of Labor and Employment, QCEW, 2023.
Notes: Teenagers are those 16-19 years old and Younger Adults are those 20-24 years old.

Many workers would have increased earnings under a minimum wage increase (see ES-Exhibit 10). The number of workers (directly and potentially affected) that could experience increases in earnings is between 1,848 and 15,805 across the municipalities, representing between 1 percent and 8 percent of current employment. Scenario B1 would realize the largest gain in workers earning higher wages in 2030.

ES-Exhibit 10. Number of Workers with Increased Earnings Relative to Baseline, 2030

SCENARIO	TOTAL WORKERS	SHARE OF CURRENT EMPLOYMENT
Scenario B1	15,805	8.0%
Scenario B2	5,108	2.6%
Scenario D1	6,969	3.5%
Scenario D2	1,848	0.9%

Source: ECOnorthwest analysis. Colorado Department of Labor and Employment, QCEW, 2023.
Note: Total workers include those directly and potentially affected.

The Federal Poverty Level (FPL) is widely regarded as inadequate for assessing family economic resiliency, with measures such as the Self-Sufficiency Standard allowing for better and more holistic assessments.[1] Due to limitations in the research literature and available data, the economic model relies on a stratification of family income relative to the FPL at the regional level (five municipalities combined). Families with lower incomes benefit more from minimum wage increases and tend to spend a higher portion of their income. Families with incomes below 300 percent FPL experience an increase in income in all scenarios.

[1] Colorado Center on Law and Policy. (2024). Self-Sufficiency Standard. Accessed at: https://copolicy.org/resources-publications/publications/self-sufficiency-standard/

Our analysis estimated the effect on individuals in poverty by municipality. ES-Exhibit 11 presents the reduction in numbers of people in poverty due to the minimum wage increase in 2030. Up to 481 people could be lifted out of poverty by 2030, across scenarios.[2]

ES-Exhibit 11. Change in Poverty Relative to Baseline, 2030

SCENARIO	CHANGE IN POPULATION IN POVERTY	CHANGE IN POVERTY RATE
Scenario B1	-481	-0.17%
Scenario B2	-103	-0.04%
Scenario D1	-166	-0.06%
Scenario D2	0	0.00%

Source: ECOnorthwest analysis

Under Scenario B1, prices would be cumulatively higher by 0.1 percent relative to baseline through 2030, and under Scenario B2 by 0.05 percent. Scenarios D1 and D2 show slightly lower price differences, of 0.03 to 0.06.

By 2030, Boulder County economic output under all scenarios increases minimally or remains unchanged, and then turns slightly negative by 2035. This small shift is due to reductions in average family income, particularly among higher-income households affected by price increases. More households have incomes above three times the FPL than below, and their income reductions lead to slight reductions in economic output. In 2030, GDP is anticipated to increase, at maximum, by between 0.0005 (Scenario D1) and 0.001 percent (Scenario B1). The negative impact by 2035 is slightly larger, with modeled effects ranging from a decrease in GDP of 0.02 percent (Scenario D2) to 0.06 percent (Scenario B1). Additionally, impacts to local (county and municipality) tax revenues collected by all local governments in Boulder County are expected to be negligible compared to overall municipality budgets.

Dashboard

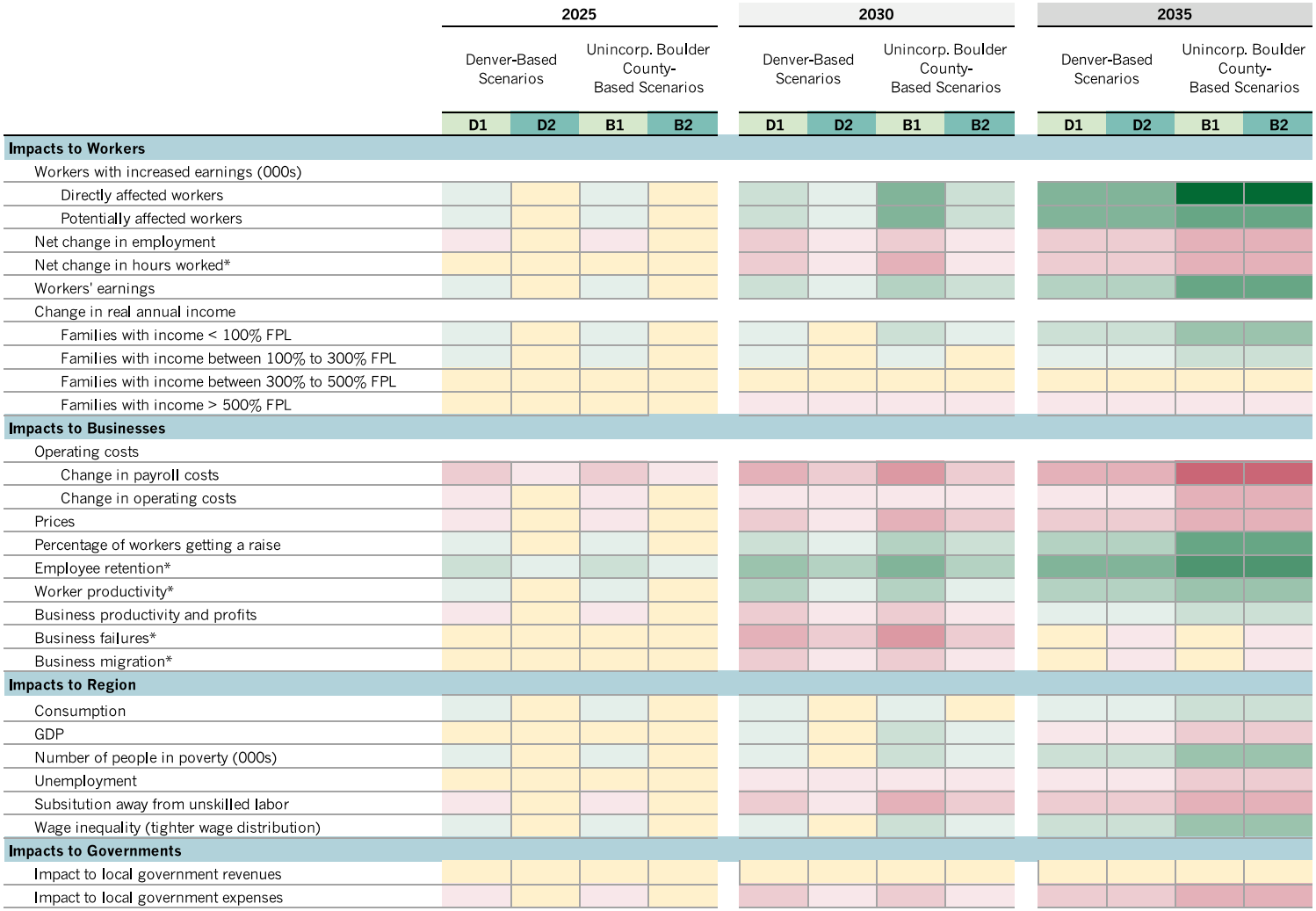
We consolidated the findings into a dashboard as a visual comparison of the tradeoffs suggested by the results (see ES-Exhibit 12). Positive outcomes are shaded green, negative outcomes are red, and smaller effects are lighter in color. Color coding for an outcome is relative to modeled impacts across years and scenarios for *that outcome only.*

The dashboard provides a general assessment of the impacts associated with each scenario. It should not be used to "score" scenarios computationally based on shades of green and red. Decisionmakers will need to consider how much weight their municipality should place on a given outcome. For example, how beneficial is a reduction in poverty compared to a loss in employment?

[2] For effects by demographic characteristics, see the full report.

What the dashboard makes clear is that no single perfect solution exists—rather, trade-offs exist under each scenario. In cases where the positive impacts are maximized, so are the negative ones; in cases where the negative impacts are minimized, so are the positive ones. The optimal policy, therefore, depends on how much weight the affected municipalities place on the various outcomes.

ES-Exhibit 12. Effect of Increases in the Minimum Wage, 2025, 2030, and 2035 - Dashboard



Source: ECOnorthwest. *Qualitative assessment

Notes: Tradeoffs are measured relative to the status quo—maintaining the state mandated minimum wage, adjusted for anticipated inflation. Outcomes that are positively affected by an increase in the minimum wage—per a given scenario—are shown in green; those that are negatively affected are shown in red. The lighter the shade, the more moderate the impact; the darker the shade, the more pronounced the impact. Outcomes that are unaffected are denoted in yellow. In the case of quantitatively-assessed outcomes, the shades of color are approximately proportional to the largest impact for that outcome. In the case of qualitatively-assessed outcomes, the shades of color are based on magnitudes reported in the relevant economics literature. Looking horizontally, the dashboard shows how each scenario compares over time (2025, 2030, and 2035) for a given outcome. Looking vertically, the dashboard shows how all outcomes, collectively, are affected by a given scenario.