

# San Diego County Human Progress and Human Services 2035



COUNTY OF SAN DIEGO  
**HHS**A  
HEALTH AND HUMAN SERVICES AGENCY



**LIVE WELL**  
SAN DIEGO

*Institute for Alternative Futures  
with  
The San Diego County Health and Human Services Agency*

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## Introduction

What will human progress, human need and human services be in San Diego County in 2035? What implications does it have for today's strategies for public and private human service providers and community partners? The San Diego County Human Progress and Human Services 2035 Scenarios offer a tool for the County and local human services community to explore these questions in their own community and to better inform future-oriented, long-term strategies and efforts. For this purpose, these scenarios consider a range of forces, challenges, and opportunities shaping human services and offer a plausible set of expectable, challenging, and visionary pathways for how human services and human service providers may change over the years to 2035.

These scenarios will be used at a Scenario Workshop on April 13, 2018, where participants will consider how successful their current directions and strategies would be in each scenario, what adjustments are needed and develop recommendations focused on the near term and the long-term future.

These San Diego County Human Progress and Human Services 2035 scenarios are an important part of a larger project on the futures of human services— conducted by the Institute for Alternative Futures (IAF) and supported by the Kresge Foundation. In addition to developing scenarios for the human services community in six cities and counties and two states, IAF is also developing a set of national human service scenarios. The national scenarios and these San Diego scenarios will allow human service leaders, practitioners and partners to consider their own work in the context of these alternative futures, to challenge their assumptions about the future, to identify emerging risks and opportunities, and to formulate more robust strategies with a greater potential to advance their mission over the decades to come.

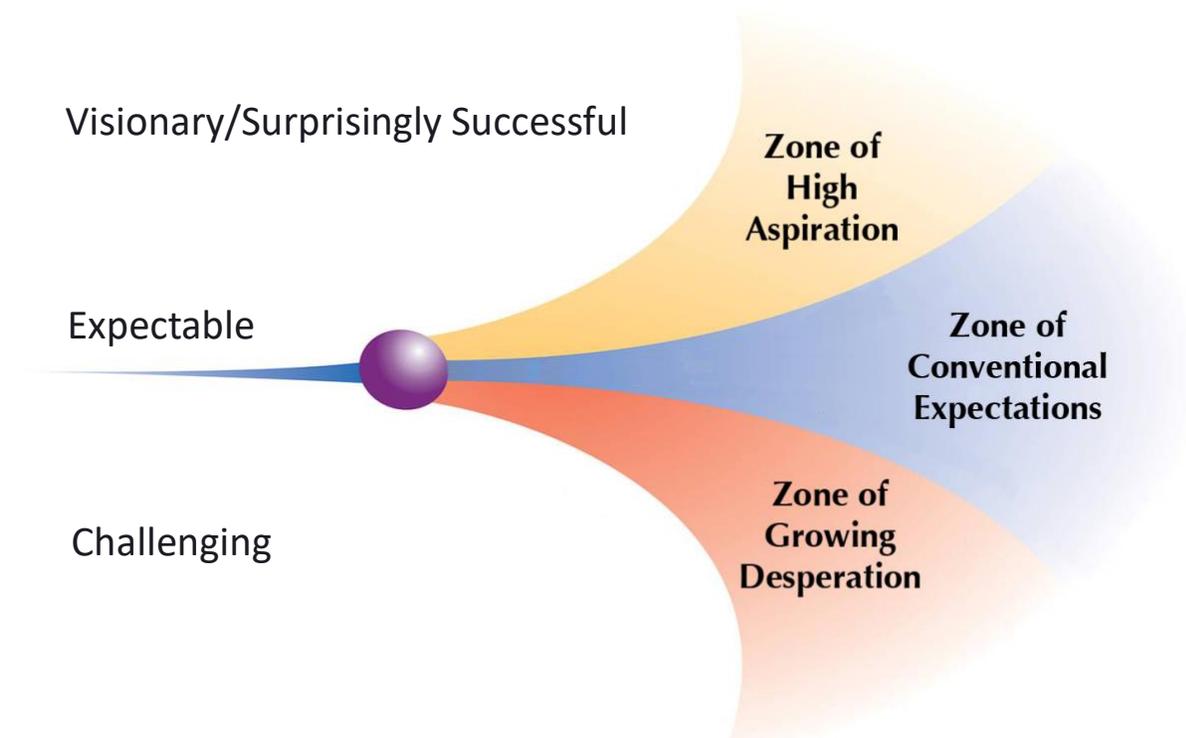
## Why Scenarios?

The future is uncertain. However, scenarios – different stories describing how the future may unfold – can be used to bound that uncertainty into a limited number of paths. These paths help us think about different probabilities in a larger space of possibilities. Scenarios also force us to consider the systems surrounding our topic and to clarify our assumptions. People who work with scenarios find more creative options than those who plan based only on the past and present. Strategies, plans, and actions can also be “future tested” against the different scenarios to assure robust initiatives rather than continued efforts based on outdated assumptions. Scenarios are thus a powerful method for systematically addressing the uncertain future.

## Methodology

IAF partnered with the San Diego County Health and Human Services Agency and community partners to develop the scenarios using the “Aspirational Futures” approach (see **Figure 1** below) which IAF has evolved over the last three decades. This technique develops forecasts and scenarios in three zones:

- A “zone of conventional expectation” reflecting the extrapolation of known trends, the expectable future (scenario 1);
- A “zone of growing desperation” which presents a set of plausible challenges that an organization or field may face, a challenging future (scenario 2); and
- A “zone of high aspiration” in which a critical mass of stakeholders pursues visionary strategies and achieves surprising success (scenarios 3 and 4).



**Figure 1: Scenario Zones for IAF’s “Aspirational Futures”**

The San Diego Human Progress and Human Services 2035 scenarios presented on the following pages were developed based on a review of human services programs and activities, plans and documents, and interviews with human service providers and partners. We explored “driving forces” and preliminary forecasts for the City and County, its economy, employment, the environment, technology, as well as trends within specific areas of human services (aging and independence, behavioral health, child services, housing and community development, self-sufficiency programs). During three days of forecasting sessions on November 1, 2 and 3rd more than 50 human services leaders gathered to review and refine the preliminary forecasts and develop the distinct scenarios presented below. The scenarios presented below will be used at the April 13th Scenario Workshop.

As we developed the scenarios there were aspects of the driving forces that call for greater explanation than the scenario narratives allow. This larger explanation is given in the relevant end note:

- Abundance advances – a cluster of technologies that, if applied appropriately can lower the cost of living by providing in-home and in-community production of food, energy, and many home goods.<sup>i</sup> (in Scenarios 3 and 4)
- Job loss to Automation –up to 47% of U.S. jobs could be lost to automation by 2030<sup>ii</sup> (in all Scenarios)
- Options for Increasing Low Income Housing Stock – options include expanded government funding; increasing neighborhood density; encouraging accessory dwelling units; low cost 3D printed homes.<sup>iii</sup> (various options across the Scenarios)
- Universal Basic Income – faced with permanently high unemployment, a Universal Basic Income would give \$12,000 a year to each adult and \$4,000 for each child.<sup>iv</sup>

The first scenario is “expectable” or “most likely” given current trends. The second is challenging and considers some key things that “could go wrong” (including another great recession, flooding, funding cuts). The third and fourth are visionary. The third explores human progress in attitudes, technology, and policy – particularly a Universal Basic Income. The fourth explores surprisingly successful attitudes, policies, patterns of work and pay, and technology.

As you read these consider how likely each is. And consider how preferable each is – which would you want to take place?

## Scenario 1: Work in Progress

San Diego honored its *Live Well San Diego* focus on a wellness/thriving model to address the physical, mental, and emotional well-being of individuals and families and improved the communities and environment in which they live, work, and play. This was sorely needed in the late 2010s with the cuts to Federal spending on many programs, including human services. While the 2020s saw rebounds in much of that funding, poverty in the County was shaped by job loss to automation and periodic severe weather events – particularly droughts, floods, and fire. The need for human services increased in the 2020s. The increase would have been greater without *Live Well San Diego* and success in stimulating employment, better child care and behavioral health services. Human services integrated data and focused on the individual and family with prevention and generative efforts. Data integration, automated eligibility and enrollment, other automation, and predictive analytics all increased human service outcomes. The large aging population was healthier, but still suffered dramatically increased Diabetes and Alzheimer's. Disability from multiple causes increased while benefit eligibility was tightened and payments reduced. Significant advances in disability reducing technology were available to many in the 2020s, though some were not covered by Medicare and Medicaid. Wellness practices mitigated the increase in behavioral health conditions, some "virtual counselors" were deployed and there was better integration in the 2020s with medical care, but as the need grew, many lacked access. Child services integrated and provided "one stop" approvals. Child care was cut and teachers lost in the late 2010s; funding rebounded in the 2020s, though gaps in school readiness increased. State and County funding for housing covered some of the federal cuts in the late 2010s. In the 2020s funds returned and Accessory Dwelling Units (ADUs) were promoted, adding 12,000 low income units in the County by 2030. 1000 homeless veterans gained homes, but veteran homelessness and homelessness generally increased in the 2020s. For income supports, CalWORKS/TANF experienced cuts in late 2010s with rebounds in the 2020s; EITC and Cal EITC were maintained, while CAL Fresh/SNAP suffered slow reductions through the 2020s. The stigma for receiving income supports and human services was reduced and the *Live Well San Diego* wellness focus and Live Well Centers made it easier to get services.

Human Services in San Diego were shaped by federal and state funding, job loss and employment shifting to gig work, Adverse Childhood Experiences (ACES), increased number of older adults and extreme environmental events. But the need for human services and the way human services were delivered were shaped by San Diego's vision. *Live Well San Diego* united the community to achieve wellness, to thrive. The expectable increase in human need and human services was reduced by the community's pursuit of this shared vision.

Through the 2020s, San Diego's economic growth averaged around 1.1% annually. However, this growth was interrupted and the economy transformed due to widespread job loss to automation. Automation led to a loss of 7% of jobs nationally by 2025 and significantly more by 2030<sup>v</sup>. San Diego's job loss paralleled the nation's. And in the work that remained, there was a shift from jobs to piecework on the gig economy. By 2030 gig work was half of all paid work and typically did not provide benefits. These

changes increased the already growing income inequality in the County<sup>1</sup> and led to reduced state and local tax receipts, affecting all programs, particularly human services.

Throughout the 2020s as job loss was growing, California and San Diego remained intentional about training and retraining the workforce, particularly focused on technological skills. This helped racial and sociogenic groups achieve more equitable workforce preparedness. Education focused more on certificates and technical training for jobs and gig work; demand for college decreased slightly.

Immigrants and refugees continued to enhance local culture, economy and life. San Diego's population increased from 2016 to 2021, driven partially by net migration. Then, population growth slowed in the 2020s but still reached 4 million by 2030. This increase outpaced the growth of housing<sup>2</sup>. Housing was a major issue across San Diego and particularly increasing the supply of low income housing.

As San Diego's demographics evolved as the Hispanic population increased and many adults aged, leadership in the community evolved, diversified. New generations of leaders brought new ideas, values and expectations to political and economic spheres. Green jobs and blue jobs grew, both embracing technology, sustainability and innovation. The city and county developed technology innovation, including self-driving vehicles and smart city development. San Diego was a national leader in Maritime Industry/Ocean related jobs in research and development, food and energy production, meteorology, and marine security.

Climate change impacted San Diego in several ways: higher temperatures and stressful heat waves, increased wildfires, flooding, and stressed water supply. This resulted in periods of increased and more intense need for human services, with elders and children being most vulnerable. California remained a leader in policies to combat climate change. These policies and *Live Well San Diego's* efforts made the County more resilient in the face of extreme weather-related events.

**Human Services Overview** -The County was a national leader in prevention and health promotion, propelled by the community's commitment to *Live Well San Diego*. The *Live Well San Diego* vision aimed to address the interdependent nature of human services as building blocks of wellness: health, safety, and connectedness. As the vision has evolved, it transformed a person-centered model of service delivery from a discipline flow into an integrative and generative services delivery systems. All services are connected.

*Live Well San Diego* reduced some human service needs, but federal cuts in spending 2017-2021, job loss to automation, extreme environmental conditions in the County, periodic housing and food insecurity, opioid and other substance abuse, growing disabilities and inequity in health and income, and other challenges led to increased need for human services in the 2020s.

Human services became more integrated, automated, efficient and effective. Health and human services fully integrated, helping to increase overall wellness of population. And programs were integrated across Federal, State and local levels, with accelerated and automated eligibility and enrollment, data integration across agencies and sites (e.g. school, work, medical care); and customized care with predictive analytics. New, direct-prevention services were developed to support individuals and families prior to a catastrophic or serious event from which is it more difficult and costly to recover.

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<sup>1</sup> U.S. Bureau of the Census, *Income Inequality in San Diego, CA*, fred.stlouisfed.org

<sup>2</sup> SANDAG, *Regional Results: Population, Jobs, Housing*

Families and individuals were active players in their own care team. Predictive human service models were adopted that implemented open-source and transparent information, while simultaneously protecting the identity and integrity of the people involved.

Many aspects of human services tasks were effectively delivered via virtual reality, smart phone apps and their successors in the 2020s. The internet was universally accessible, voice commands, and friendly digital assistants revolutionized how individuals, particularly elders and those with disabilities, could navigate and accomplish their goals.

Human services automated many of its functions. Fewer human service workers were needed; however, their focus on fostering socialization, healthy relationships and emotional connections increased. There were conscious efforts to reduce isolation and stimulate volunteering. Each client and family has a navigator or care representative who ensures the most appropriate services as well as support and encouragement for customer self-reliance. Human service workers aided tech companies in the development of artificial intelligence, robots, and other human service focused tools. And human service expertise was embedded further into community planning and the built environment.

Outcomes achieved by human services improved. Costs resulting from high utilizers and overall costs in some areas were reduced. Longevity increased after “diseases of despair” (drug and substance abuse, depression, suicide) were somewhat reduced and more deaths were prevented. Human services aided many to achieve a higher standard of living, through better employment and gig work, trading of time and services, and home and community production of food, energy, and other home goods.

Equity continued to evolve and expand, along with human services, and drove public and political will to increase the stock of affordable housing, despite periodic federal spending cuts, ensuring more people had access to a safe and healthy place to live, and homelessness was reduced. Quality drove innovation and more outcome-based services. Human services gained more public and political support for the ability to achieve outcomes and increase justice and slow the growth of inequalities made worse by job loss to automation, environmental and other threats to the region. But, despite San Diego’s significant leadership, the need for human services increased.

## Aging and Independence Services 1

Aging and Independence services (AIS) integrated with other areas through ConnectWellSD, which supported the Live Well model of person-centered and trauma-informed practice and the electronic exchange of information for County human services.

Those 65 and over reached 597,100 in the San Diego Metro area by 2030<sup>3</sup>. Key disabling diseases grew; diabetes (diagnosed and undiagnosed) in those 65 and older rose to 154,600 by 2030<sup>4</sup>. Alzheimer’s grew to 93,000 in 2030<sup>56</sup>. San Diego County was proactive in Alzheimer’s research, including the Alzheimer’s

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<sup>3</sup> Institute for Alternative Futures, *San Diego Metropolitan Area Diabetes Data & Forecasts*, <http://www.altfutures.org/pubs/diabetes2030/SANDIEGODataSheet.pdf>

<sup>4</sup> *ibid*

<sup>5</sup> Some estimate that Alzheimer’s in the County will include over 92,804 65 and older by 2030, County of San Diego, *Strategic Framework and Alignment*

<sup>6</sup> Alzheimer’s Association, *2017 Alzheimer’s Disease Facts and Figures*, Reported in 1 in 10 seniors will have Alzheimer’s <http://www.alz.org/facts/>

Project efforts, while increasing early diagnosis rates and aiding swift connection to community supports when needed. But no cures were successful in the 2020s. And the increase in elders with significant disabilities led to a greater demand for beds in skilled nursing facilities, but the supply was insufficient. As people lived longer, instances of chronic diseases rose.

Diabetes impacted many across San Diego, not just seniors. Efforts for *Live Well San Diego* goals, particularly obesity prevention, were successful in preventing or slowing diabetes progression so that by 2030 there were 350,000 rather than the expected 484,000 with diagnosed or undiagnosed diabetes. The number with amputations per year in 2030 was reduced to 400 rather than 580 and the number of new renal failure cases per year was 550 rather than 770.

As much as possible, Promoting Independence and Choice (PIC) programs took advantage of new technologies. These technological advances included:

- Televisits and virtual reality were commonly used by many, including Project Care
- Self-driving vehicles lowered transportation costs and reduced isolation and were built into TNCs (transportation networks). United Health Care, some hospitals, and AARP funded rides through Uber and Lyft
- 3D printing of home goods, equipment and even some smart prosthetics
- Sophisticated home monitoring and home care robots, and intelligent agents
- Wearable sensors to monitor insulin levels
- Direct brain control of limbs for paraplegics; prevention or slowing of diabetes; and some vision and hearing restoration.

Medicaid and Medicare covered some advances but not others, largely based on their cost.

In the 2020s there were reductions in federal Social Security Disability Insurance (SSDI) payment levels, and tougher eligibility standards for SSI. Disability and independence services grew more focused, benefit levels were reduced, eligibility requirements and barriers to access stiffened. Insurers experienced an increase in enrollment.

Housing for seniors and persons with disabilities evolved. San Diego was an early leader in “Villages” or Naturally Occurring Retirement Communities (NORCs) that fostered community interaction and supported aging in place. These grew in the area, some took advantage of repurposed churches and retail spaces, but few were in low income communities.

More families became “multigenerational” by choice or economic reasons. The County encouraged accessory dwelling units (ADUs) added on to homes or in the yard. This changed the fabric of caregiving, as more elders lived in close proximity to others and reduced generational isolation. By 2030, the increase in ADUs in the county increased the low-income housing stock. This raised property values and kept more families together. In the 2020s, even new homes were constructed with ADUs.

Supportive housing for persons with disabilities— on both sides of age 65 - continued. The demand grew with rise in the elderly population. Emergency shelter in cases of elder abuse or neglect continued to be provided though the need periodically exceeded the supply.

Other services from HHS and other providers in the state saw reductions and rebounds in funding, along with evolution:

- Nutrition programs saw severe cuts in the late 2010s, followed by rebounds in the 2020s. Home and community food production was encouraged; still, pockets of food insecurity increased.
- Senior services were integrated into other community sites, including libraries, schools, cafes, and churches, and broadened their audience and range of services.
- Congregate dining sites increased and focused on attracting and retaining seniors with creative and multigenerational interactions.
- Services for San Diego's large veteran population, many of which required aging or independence services, continued to ensure access to housing and health care.

## Behavioral Health Services 1

*Live Well San Diego* worked to improve quality of life and address behavioral health issues with some success; still, the need for behavioral health services in San Diego increased due to the stress and trauma of economic downturns, social and economic exclusion, extreme weather events, increased opioid and other substance abuse, neighborhood and domestic violence, and particularly adverse childhood experiences (ACEs).

Behavioral health gradually integrated with primary care. Care shifted away from 'carving out' specialty mental health services from others, towards integrated health plans. With the re-reform of healthcare, mental health coverage under Medicaid was increased. Payment moved to a value-based, capitated payment system.

Understanding of the impact of ACEs better informed health care and schools, with teacher training and better in-school clinic services. As technology increased in the lives of young people, some struggled with interpersonal connectivity and self-esteem. Cyber bullying and suicide persisted and sometimes increased. Shortages of child psychologists, especially in non-profits, remained.

Substance abuse and mental health issues began to be viewed and treated together. Criminalization of substance abuse decreased.

Demand for the San Diego County Psychiatric Hospital's inpatient services was reduced, but it remained an important source of services for emergency and crisis stabilization.

Behavioral health was effectively delivered through software programs and apps, which displaced some human therapists during the 2020s. The remaining human therapists provided oversight of software use and delivered in-person services when needed.

Despite many advances in behavioral health, access to treatment and success rates varied across race and socioeconomic classes and occasionally, the seriously mentally ill continued to have difficulty accessing services.

## Child Services 1

The need for child protective services and foster care varied through the 2010s and 2020s as increased unemployment, cycles of poverty, substance abuse and other factors contributed to child abuse and neglect. In the late 2010s increased deportations left U.S. born children of those deported in the

County, some of whom needed foster care. And independent of immigration, non-White children continued to enter the foster care system at a higher rate than White children.

Child and family services focused on both parents and children (including greater engagement with fathers) and pursued a 'one stop' approach, using family navigators and care coordinators. Information around services increased, stigma decreased, and more services could be initially reached by phone or other virtual tools. Social services continued with their collective vision and a holistic approach of wrap-around services.

Delivery of child services was influenced by greater data integration enabling predictive analytics. Televisits grew, easing travel needs for providers and families. Child and family service agencies deployed "Doc Watson"/AI programs widely by 2025. Service deliverers were trained on using predictive analysis to anticipate family needs and for community planning with a focus on reducing cyclical poverty.

Federal spending on child care and early childhood development programs, including Head Start, was reduced during the cuts in the late 2010s. Fewer kids 0 to 4 received subsidized child care; fewer had Head Start or Pre-K – increasing the burden on low income families. Without consistent access to quality child care and Pre-K, the school achievement gap increased. There was some improvement in the County as Pre-K For All influenced the quality of Pre-K in all school districts, and some child care providers across California extended their hours, which helped as more parents worked irregular hour on their 'gig' tasks. As San Diego became majority minority, the racial achievement gaps persisted.

In the 2020s, child care quality increased and technology made it more effective. After the workforce for preschool teachers declined in the late 2010s, efforts were made to attract workers with a focus on subsidized training and higher wages. Societal regard of early childhood educators increased. Child care, Head Start and Pre-K providers were better trained and California had monitoring and regulation that improved their quality. Interactive learning technology, using affective computing, tablet apps (like ABC Mouse), and personalized learning activities, stimulated engagement and charted the child's development.

Other areas of child services that continued to evolve were:

- Family Strengthening Programs, which proved largely successful in family plans for abuse prevention
- Juvenile justice courts moved towards restorative justice, reducing the number of children being incarcerated
- Federal funding for teen pregnancy prevention reduced in the late 2010s, then rebounded.

## Housing and Community Development 1

Housing and homelessness were on the forefront of issues in San Diego County leading up to and during the 2020s, particularly as they impacted all other areas of human service need. Demand for housing services was influenced by high rent, job loss to automation, changes in funding for services, and policy changes to add to the low-income housing stock.

In 2017, major change in the California legislation set policies to promote Accessory Dwelling Units (ADUs) added onto homes or put in their yards. San Diego modified the regulations, but overall, sped up the permitting process and regulated how ADUs could be rented and managed. Of the 190,000 homes in the County that could have added ADUs, in the 2020s nearly 38,000 were built. Some of these allowed seniors to down size and live near family and others were more costly rentals. Overall ADUs added 12,000 units to the low-income housing stock.

There was some increase in housing assistance. Housing partnerships across the County were successful in providing rapid rehousing and tenant-based rental assistance for hundreds, adding thousands to the database for the Homeless Management Information System, and improving public facilities and services. The County was also successful in developing housing for 1,000 homeless veterans, and increased housing as part of wraparound services for those with serious mental illness. However, the number of homeless in the County continued to grow faster than these successes, and there were obstacles to achieving housing agendas, including the elimination of Community Development Block Grants.

San Diego County used several approaches to increase the stock of low and very low income housing<sup>vi</sup>, including:

- Raising the number of unrelated people who could live in a home and allowing secondary dwelling units to be built onto an existing home or in its yard. More non-related people, of differing ages and abilities, shared homes in what became mixed income residential settings. This included group homes with residents of differing ages and abilities.
- Building more affordable housing; increasing number and value of housing vouchers, particularly for veterans, when there was federal funding support in the 2020s.
- Incorporating universal design and sustainable, more energy efficient building materials into new construction and remodeling.
- The 2020s saw the passage of a state law on rent control and anti-displacement ordinances.

Other aspects of housing services persisted, albeit with year- to -year variations in the funding levels. Minor home repair for veterans and the elderly was done to support them in staying in their home. Supportive housing for the disabled – on both sides of age 65 - continued. The demand grew with rise in the elderly population. Emergency shelter in cases of abuse or neglect continued to be provided though the need periodically exceeded the supply.

## Self-Sufficiency Services 1

Self-sufficiency programs evolved along with changes in the economy, society and the government. During the 2017-2021 Administration, CalWORKs payments were reduced. The level of cash allowances rebounded in the 2020s and was adjusted for inflation. By 2024, TANF reforms followed the recommendations of the American Public Human Services Association (APHSA) on the program as a tool to stimulate meaningful employment.

Areas of job growth in the County included STEM, health sciences, bio science, Maritime industry, and technology industries. Job training and education focused on these areas and positions that were least likely to be automated. Private sector engagement increased around jobs and job creation; many local companies fostered job creation and aided the County and providers in training to target certain jobs.

The Earned Income Tax Credit (EITC) maintained its bipartisan support and continued to supplement the income of low income families in the County by reducing or eliminating their federal income taxes. In 2015 EITC payments in the County were \$557 million. And California continued its CalEITC. These helped many in the County to rise above the poverty line.

Thrive San Diego continued as an important initiative in helping families and individuals make the most of self-sufficiency programs. San Diego was largely successful in reducing the stigma often associated with these programs by transforming program facilities to Live Well Centers which operate as a hub for multiple services.

Food and nutrition support programs evolved as well. Cuts to programs like WIC decreased the number of places where low income children could receive daily meals. But, it was made easier for schools and HHSA to share information, which enabled automatic enrollment in free or reduced school food programs; a choice to 'opt out' remained.

CalFresh was changed by federal regulations which reduced SNAP funding and brought on stricter limitations. In the 2020s total funding levels for CalFresh were raised and applying for the program made much easier and quicker. HHSA encouraged enrollment, particularly among seniors. Once an individual or family was at or below a certain income level, they automatically qualified for CalFresh and other relevant programs. Personal, financial, and community data was included in HHSA's integrated data system by the early 2020s, once protections for privacy, security and discrimination were in place. CalFresh's Employment and Training programs collaborated effectively with other employment programs.

National acceptance of refugees slowed periodically and then rebounded in the 2020s. San Diego continued welcoming immigrants, despite periods of increased deportations in the late 2010s. Cash assistance programs for immigrants continued. Service delivery became even more culturally specific, aided by low cost instant language translation apps and artificial agents that support cultural interpretation of cultural beliefs and practices.

Job training for immigrants and new residents focused on preparing and integrating these populations into the workforce. However, with the time limitations for immigrant cash assistance and the difficulty in finding employment, some were left unemployed without supports.

## Scenario 2: Troubled Times

These were troubled times. San Diego was challenged economically and socially, and the ability to confront these challenges varied across the years to 2035. Economic growth was turbulent, with period recessions – the big one, the Recession of 2023, was particularly challenging. And this was compounded by ongoing job loss to automation across all economic sectors. The number of those in San Diego living in or on the edge of poverty increased. Need for human services increased, but resources did not. Under the 2017 Federal administration, funding for human services was cut across the board and stricter regulations for programs were put in place. In the 2020s federal funds never fully rebounded. Climate change impacted San Diego as weather events became more frequent and severe – including extended periods of water shortages. In response, homes and communities increased their self-sufficiency and resilience, including low cost solar energy production and storage, community gardening, and urban agriculture. The need for human services increased, while services decreased. Some non-profit organizations went bankrupt, others consolidated, automated when possible, and collaborated to best ensure that resources were most effectively used to help individuals and families. *Live Well San Diego*, continued to inspire the community to achieve shared goals – and while many goals were not met, conditions would have been worse in the County without those shared goals.

The years leading up to the 2030s were filled with challenges. The economy overall grew slowly for most of the two decades to 2035, with periodic recessions. The Great Recession of 2023, was particularly challenging to employment, tax receipts, and human service spending - adding another 5% unemployment during 2023 and 2024 to the growing job loss to automation, which led to a net loss of 7% of jobs by 2025. Total unemployment in 2025 was 13%. The minimum wage had risen to \$15.00 an hour in 2023 in California – then, the Recession hit. The higher minimum wage led many companies to automate faster, accelerating the unemployment. Unemployment after 2025, remained at 15% or more.

United States trade and economic relations with Mexico were repeatedly stressed, which negatively impacted the economy of San Diego County. Increased global tension led to more global conflict and more of the San Diego- based sailors and marines were deployed. This stressed housing and the economy, while more families had to deal with the absence of a parent.

Deportations increased, along with tensions and civil unrest. For immigrants that did remain, there was increased distrust of government and services. Many children whose families were separated due to deportation experienced the long-term impacts of trauma; some entered the foster care program.

Climate change- related events became more severe. Floods, fires, droughts came more frequently and were more disruptive. Heat waves and droughts affected crop production every few years. Water supply from the Colorado River was dramatically reduced.

Economic downturn decreased the revenue base to fund human services, while leading to an increase in self-sufficiency efforts, particularly family and community food production and the trading of services and other resources in low income communities. Other challenges included higher high school dropout rates, increased homelessness, doubling and tripling up in homes that worsened overcrowding – all of which had health and safety consequences.

The need for most types of human services grew while resources were often limited. Human service funding was cut in the late 2010s, with a rebound in the early 2020s; major cuts during and after the Recession of 2023; and another rebound in the second half of the 2020s. Human services were largely unable to focus on prevention and moved back to intervention services. *Live Well San Diego* and its shared goals reduced the impact of the Recession – while many goals were not met, the County would have been worse off without the community and sharing these shared goals stimulated.

More human services were contracted out, but with more nonprofits closing or consolidating, there were fewer organizations to contract with. The organizations that remained experienced increased pressure to do more, but with fewer resources. Nonprofits were forced to lower costs while proving higher outcomes to receive funding, which put them under greater pressure and quality of services was strained. Health and human services each became more siloed, decreasing their coordination and impact.

Human service organizations were forced to move from the mantra of “do more with less” to “do less with less;” to automate what they could (15% of human service jobs in the County were lost to automation); to collaborate to ensure that the funds and services provided were deployed most effectively for the individual’s and family’s unique needs; to reinforce their overworked and underpaid employees on the importance of their mission. Some partnerships increased and developed creative solutions, including making built and physical environments safer and cleaner, which was particularly needed as there were more people on the streets and more criminal activity.

## Aging and Independence Services 2

There were repeated challenges that particularly impacted the lives of seniors and persons with disabilities. The Recession reduced the value of the retirement portfolio of many seniors and diminished government spending on aging and disability services. Consumer finance regulations collapsed. The age to qualify for full Social Security rose to 70, and many seniors struggled to remain in the workforce given job loss to automation. Many who did receive benefits lived in sustained poverty. Severe weather events repeatedly affected housing and senior services.

Diabetes increased in seniors and other age groups. Diabetes (diagnosed and undiagnosed) in those 65+ rose from 109,200 in 2015 to 154,600 by 2030<sup>7</sup> many with resulting complications; <sup>8</sup>. Alzheimer’s grew

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<sup>7</sup> *ibid*

<sup>8</sup> Institute for Alternative Futures, *San Diego Metropolitan Area Diabetes Data & Forecasts*, <http://www.altfutures.org/pubs/diabetes2030/SANDIEGODataSheet.pdf>

to over 59,000 in the County in 2030<sup>9</sup>. There was a dramatic increase in chronic conditions, but beds in skilled nursing facilities were very limited.

Relatedly, disabilities increased. The health disparities for seniors who are low income and/or Hispanic or Black worsened<sup>10</sup>. The need for universal design and ADA accessible homes increased; some communities in California and San Diego responded and adopted these measures.

During the 2020s and 2030s, there were great medical and technological advances. There were cures for Alzheimer's and diabetes, some of which San Diego researchers pioneered; but these were expensive and not covered by Medicare or Medicaid. Likewise, while developmental disabilities were growing, treatments, some in utero, some after the person was born were available and expensive and not covered by Medicaid, Medicare or many insurance programs.

The number of senior homeless increased, along with disease outbreaks. Hospice and health care for the homeless was more needed and less available.

Aging and independence service agencies, both government and private, encouraged more family and community care. This worked in many communities, but left low income, minority and elders disproportionately without adequate care. Multigenerational homes made up a larger percentage of families in San Diego, but overall fewer seniors had access to local family or close friends as the ratio of family and kin to elder dropped from 7 to 1 in 2010 to 4 to 1 in 2030.

## Behavioral Health Services 2

Behavioral health services decreased dramatically due to budget cuts even as the evidence accrued to show these services reduce cost in the long run. The pullback from the Affordable Care Act slowed the integration of behavioral health into health care. The Great Recession and unemployment led to increased poverty, along with its associated increases in domestic and community violence, teen pregnancy, housing and food insecurity, and chronic disease. Drug abuse, including opioids, grew with increasing harm. The safety net for substance abuse and mental health services was stressed, and providers overworked.

More were uninsured with cuts in Medicaid/Medi-Cal, and enrollment in private health plans declined, leaving fewer people with access to behavioral health care. Particularly stressed, outlier communities, such as refugees, had intermittent access to health care, and their needs worsened as they remained isolated and underserved.

Behavioral health expert systems – “virtual counselors”, that delivered via smart phones, did become very effective by the mid- 2020s but they were only available to the affluent or those with health insurance or managed care plans, including Medi-Cal. Human relationships remained a core value of

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<sup>9</sup> Alzheimer's Association, *2017 Alzheimer's Disease Facts and Figures*, Reported in 1 in 10 seniors will have Alzheimer's <http://www.alz.org/facts/>

<sup>10</sup> NPR, *Stress and Poverty May Explain High Rates of Dementia in African-Americans*, <http://www.npr.org/sections/health-shots/2017/07/16/536935957/stress-and-poverty-may-explain-high-rates-of-dementia-in-african-americans>

behavioral health services, and virtual counselors were not appropriate for some higher risk and higher need populations.

Prisons remained leading sites for providing behavioral health services. In the years from 2017-2021, the national return of a “get tough” stance in criminal justice led to increased arrests and convictions. Black and Hispanic populations were most affected as their arrest rates remained higher and sentences longer than for the White population. Economic challenges increased poverty in the County, contributing to higher crime rates and higher incarceration rates.

In 2020s, behavioral health providers did use predictive analytics to triage the population when budget cuts meant fewer people could be served. These cuts took a toll on providers as well as their clientele.

## Child Services 2

The need for child services grew for most of the two decades to 2035, driven in part by increased poverty, racial and ethnic disparities, and cuts to human services. The cuts in services experienced in the late 2010s had largely been reversed by 2023, when the Great Recession arrived and forced reductions in spending. Job loss to automation further added to the growth of poverty throughout the 2020s.

The increase in poverty contributed to greater child abuse and neglect, domestic abuse, opioid and other substance addiction, teen pregnancy, housing insecurity, food insecurity and depression. The adverse childhood experiences (ACEs) and trauma which impacted brain function and development for these children would negatively affect their gene expression for years to come. The need for foster care grew – but there were fewer families taking foster children, and cuts in funding to human service staff and contractors, so not all the relevant kids made it to foster care.

In many low-income communities, there are more disconnected youths not in school or working, and this led to increased gang activity.

Child welfare services, such as protective services and refugee assistance services, were cut repeatedly. Other programs that experienced cuts, or elimination, included: child care subsidies, programs to provide school clothing, transportation assistance, home repairs funding, and job training. In some parts of the County faith-based, philanthropic and other community groups increased their efforts to address some of these unmet needs. San Diego responded by training volunteers and family members to work directly with families in need as coaches or navigators. Some took on the role of community health workers. Human service providers encouraged family self-sufficiency through technologies and sharing time and services. Eligibility criteria did not penalize these activities by counting them as assets.

Human service providers automated much of their work to deal with staff cuts. Human service areas used the integrated information system to target the best set of services from their dwindling pool of programs and funds. This information was integrated with data from other community services – health care, police, and schools, but at times the information systems were not updated or reliable, leading to instances of children and families not receiving services that they should have received.

## Housing and Community Development 2

Across San Diego County, homelessness increased as well as related public health crises, such as outbreaks of Hepatitis A and other diseases. These outbreaks, in addition to economic downturns and political and social tensions, reduced public support for reducing homelessness.

Loss of a job was a frequent cause for loss of housing, accelerated during the Great Recession. Other contributing factors to housing instability, such as severe cost burden for rent, domestic violence and disabilities, increased as well. Homeless populations soared while spending on them dropped. Churches and philanthropic organizations across San Diego stepped in and met some of the need, providing shelter and meals. Tent cities expanded.

Funding for building and maintaining affordable housing was eliminated, and there was reduction of affordable housing in the region. More luxury housing and gated communities emerged, displacing more people and increasing racial segregation; poverty was more deeply concentrated. Accessory Dwelling Units were added throughout the County but most had relatively high rents.

Squatting in vacant homes and buildings became a more popular phenomenon, with the attendant risks for fires and unsafe environments. The increase in housing instability contributed to increased human trafficking, gang activity and other crime. Blight worsened, and fewer businesses were attracted to San Diego. Lack of affordable housing discouraged talent from moving to the area. Quality and safety in some public housing units and some voucher units was not maintained, and they were taken out of service.

Unstable and unsafe housing, as well as increased family homelessness, had a negative impact on children. There were increased instances of abuse and neglect, sometimes due to a parent having to choose between housing costs, medicine, and food. This increased the workload for the child welfare system.

Utility assistance and eviction prevention services were kept very busy. But in some instances, these human service workers had already been laid off. The elimination of Community Development Block Grants, and other federal programs, led to increased inequity and isolation across communities.

## Self-Sufficiency Services 2

Cash assistance programs, experienced greater cuts and limitations- and some were fully eliminated. Cuts worsened during the 2020s as the job categories CalWORKs recipients could seek were narrowed. The Great Recession of 2008 and widespread job loss to automation made the situation worse. State and federal funds shifted away from income supports and towards public safety and funding prisons or jails.

For many families, survival came through the informal or underground economy. This included legal and illegal efforts. By 2035, a growing number of the population in prison were former CalWORKs recipients who had resorted to crime for survival.

More people required emergency assistance, medical assistance (with more ER visits), and temporary disability assistance but there were fewer financial and human resources available.

The EITC payment levels had been slightly reduced during 2017-2021 but grew slightly above inflation through the 2020s. However, automation and recession-induced unemployment, reduced the number of families benefiting from Federal EITC payments. CalEITC continued to parallel the Federal EITC.

Food costs continued to increase, yet wages and family incomes declined. The CalFresh program suffered significant cuts. When the Federal Government switched SNAP to a block grant, California maintained its nutritional standards and, in some years, supplemented the declining federal payments. SNAP funding declined until the late 2020s, when despite overt need, the program ended all together. CalFresh continued to be funded, at reduced levels, with state funds.

Immigration reform never happened. The administration deported many between 2017-2021. The U.S. stopped accepting refugees from war torn areas. Refugees were often met with resentment from neighbors. Some refugee families formed their own isolated communities. Refugee assistance funding and length of benefits were cut, along with the number of refugee arrivals. Human services continued to provide immigrant services at decreased levels in the County, but providers and recipients did benefit from the use of language translation apps that were available by the second half of the 2020s.

## Scenario 3: Living Well

The 2020s were a time of change. Human services were tested between 2017-2021, when funding was cut across the board and stricter regulations for programs were put in place. Meanwhile, more jobs were lost to automation and work was shifting to the “gig” economy. Building on a value shift that had long been growing, the 2020s brought major shifts in values and policies that embraced equity and inclusion. *Live Well San Diego* was a national leader as a program promoting equity and inclusion, reflected in the community’s goals and partners actions. The policy shifts nationally increased low-income housing, created universal access to single payer health care, reformed immigration, and protected the environment. The passage of a universal basic income helped alleviate absolute poverty. Each person contributes to their community whether through paid work, caring for family, or volunteering. “Abundance advances” in technology lowered the cost of living by enabling low cost and sustainable home and community production of food, energy and goods. The need for human services was reduced but remained. *Live Well San Diego* expanded the wellness model, successfully improving safety, health and connectedness across the County. Human services became more generative. They fully integrated across agencies and partners. And, enabled by data and predictive analytics, were able to successfully intervene earlier or prevent potentially harmful incidents or circumstances. San Diego’s vision was achieved - people are living well.

The economy continued to grow slowly and transform, including major shifts in employment. A net 7% loss of jobs to automation by 2025 was followed by greater job loss in the years to 2035. Much remaining paid work shifted to piece work on the “gig economy”. Manufacturing evolved as home goods, electronics, and even food could be 3D printed locally or in home.

Simultaneously, a major shift in values and attitudes was shaping communities and policies. Support for equity and inclusion had been growing. It was accelerated by the unfairness and inequality that grew during the 2017-2021 administration. The value shift became the norm in most communities in the nation and California, including San Diego. It led in the 2020s to major transformations in a range of policies: housing, health care, education, justice and income supports. Medicare for All - universal, single payer health care was passed. *Live Well San Diego* was a national model of community developed and pursued goals, reinforcing the support for equity and inclusion in the County.

Given the growing job loss to automation and the complexity and insufficiency of the patchwork of income support programs, a universal basic income<sup>vii</sup> was created that unconditionally provided all adult citizens \$12,000 yearly and pays \$4,000 for each child. California ‘topped up’ basic income levels given the higher cost of living, particularly housing costs.

Education evolved to be more inclusive and prepare students to be able to contribute and succeed in the changing economy. This included more technical training and apprenticeship programs for workforce preparedness as well training for child and elder care and other community volunteering. Concurrently, the population aged and there was greater focus on valuing and caring for elders. More

San Diegans felt valued through their contribution to this child and elder care, and other volunteering supported by the universal basic income.

The information and communication environment changed. The successors to smart phones and their related apps became more intelligent and did more for us. AI or cognitive computing enabled better home security, language translation, self-driving cars, medical diagnoses and prescriptions. Virtual reality became as widely used in the 2020s as the internet had in the 2000s, including by elders. And, technologies, ultimately called “abundance advances” allowed families and communities to produce much of their energy, food and home goods (and even homes with 3D printing). This lowered the cost of living low-income families. Policies supported the spread of these abundance advances and human services provided training and support in their effective use.

Human Services in California were shaped by and often accelerated these transformations. Federal human services funding had been cut in the late 2010s, followed by more than rebounded in the 2020s as they transformed. The universal basic income (UBI) guaranteed that no citizens would fall below the poverty line. And abundance advances lowered the cost of living. Human services provided training on wealth and financial literacy for families to successfully manage their basic income payments, optimize their use of “abundance advances” and have each family member aware and proud of their contribution whether through caring for family, volunteering or paid work. With the UBI, abundance advances, and greater equity and inclusion across communities in the County, the need for some human services was reduced. But the challenges of aging, abuse and neglect, behavioral health, developmental and other disabilities, and homelessness required ongoing human services.

*Live Well San Diego* focused human services on a wellness/thriving model addressing the physical, mental, and emotional well-being of individuals and families and improving the communities and environment in which they live, work, and play. The *Live Well San Diego* vision helped create greater equity and it addressed the interdependent nature of human services as building blocks of wellness: health, safety, and connectedness. As the vision has evolved, it transformed a person-centered model of service delivery – a discipline agnostic service flow into an integrative generative services delivery system, where all services connect.

In these integrative systems, data was widely shared, with protections for security, privacy and discrimination. This allowed human services to use predictive analytics to anticipate needs and optimize services. The increased use of block grants and greater flexibility in funds across programs allowed human services to optimize the services an individual or family most needed.

The *Live Well San Diego* indicators of life expectancy, quality of life, education, income, security, physical and built environment, vulnerable populations and community involvement improved across the County and City. San Diego human services largely operated at a generative level, building capacity and community solutions with community members.

### Aging and Independence Services 3

Aging and independence services were renamed aging and independence productivity services (AIPS), engaging the contribution that everyone can offer the San Diego Community. San Diego developed a cohesive Age Well plan which helped redesign communities and land use to include respect, inclusion

and socialization for all. Age Well brought many groups together, across federal state and county level agencies, for collective planning to strategically address demographic changes.

Work and volunteerism programs evolved with greater flexibility, and more intergenerational programs promoted meaning and contribution. Programs such as Legacy, which paired up seniors and college students to share housing and respite care, increased.

Disability, and its impacts, were reduced during the 2020s. Diabetes, arthritis, Alzheimer's, and some cancers and other chronic diseases were slowed or reversed. Increased physical activity and weight loss among overweight and obese individuals and safer and healthier work places and work styles all contributed to the reduction. Developmental disabilities were reduced with reduced poverty, consistent prenatal care, and safer environments. Yet disabilities and disparities in disability levels along racial, ethnic and income lines persisted.

The universal basic income "topped up" those 65+ whose Social Security or pension/retirement income was less than \$12,000 annually (these, and Social Security payments, were inflation adjusted annually). The UBI benefit led to the elimination of the first \$12,000 in disability payments. Those with more severe needs had the amounts over \$12,000 continued.

Formal, informal, and virtual senior centers all grew. Many ceased to be "seniors only", integrating with libraries, schools, churches, cafes, and other settings. This was likewise the case for programs for persons with disabilities. More older adults volunteer, co-produce food and home goods, and trade goods and services.

Senior group living and co-housing grew steadily through the 2020s, as did "smart homes" for many seniors. Smart home features play many roles, including friend, bookkeeper, secretary and counselor. More homes have residents of various ages, income levels and abilities. These were sometimes called Freedom Houses and were in refurbished older unused properties or new units embedded with universal design. Many smart home systems include support for in-home food and energy production. Long term in-home supportive services allowed many of those eligible for nursing home care to remain in their own homes.

Other aging service areas that evolved included nutritional programs and adult protective services. Both used technology (such as drones and smart homes respectively), predictive analytics and community delivery. Government increased their speed for using new technology including safety and security measures. Elder abuse reduced as security measures such as credit card alerts increased.

Many of the advances helpful to older adults were important to those with disabilities as well:

- 3D printing of home equipment and even smart prosthetics
- Sophisticated home monitoring and home care robots
- Friendly intelligent agents that act as helper, guide, counselor, therapist, translator, speech and hearing enhancer. These personal intelligent agents also communicate with family members, care givers and medical personnel about their person with disability
- Direct brain control of limbs for paraplegics; slowing of diabetes and Alzheimer's; and vision and hearing restoration for some
  - Once proven effective and safe, and their initial costs dropped, they were covered by Medicare for All

- By the late 2020s genetic analysis could predict disabilities and in-utero testing and gene level repair was available outside of Medicare for All.

### Behavioral Health Services 3

Many behavioral health problems were prevented in the 2020s with changes including increased family stability and reduced isolation and segregation. In parallel with social value shifts, an increase in behavioral health understanding destigmatized mental health conditions and obtaining behavioral care. This led to much greater acceptance of differences among people and of people seeking treatment and being able to talk about it.

Care for behavioral health conditions increased. Universal developmental screenings, informed by the explosion of genetic, epi-genetic, environmental and social data, were a routine part of primary care, reinforced by day-care, Pre-K, and school testing. The focus of the tests and their interpretation were influenced by advances in understanding ACEs and genetic and environmental contributors to behavioral health. Predictive analytics aided early intervention. Data mining is done in ways that avoid inherent bias and profiling while ensuring data security.

For some behavioral health conditions that were largely genetic in their origin, in the 2020s effective genetic interventions were proven successful. The Medicare for All system of the 2020s covered or provided these advances, as behavioral health has parity with physical medicine. Technology significantly accelerated behavioral care. Effective and inexpensive software operated as “virtual counselors”. Developed and used by leading health care providers, these proved to be very successful in the 2020s. This reduced some of the need for County-provided or funded behavioral care.

Homes for adults with behavioral health issues evolved with special smart home technology geared to residents’ needs. Residents do home food production (from conventional gardening to high tech approaches); use face to face visits and virtual reality to relate to other communities; and generally, make themselves as self-reliant as possible. Some called these Freedom Homes. Health care and human service agencies supported social enterprises that develop and manage these homes.

The behavioral health workforce evolved and demand for care was partially reduced. Virtual counselors displaced some human therapists. The ones that remain focus on the more challenging behavioral health conditions as well as oversee the automated systems.

### Child Services 3

Child services were positively affected by the UBI. The UBI led to greater family stability, a reduction in family violence and child abuse, lower teen pregnancy rates and increased high school graduation rates. Financial and wealth literacy programs were provided to help families use their income most effectively and understand the wrap-around services they need.

However, there were side effects of the UBI. While addictions were reduced, for those who remained addicted to various drugs, the UBI provided a more stable source of money for buying their drugs. Substance abuse was viewed as a public health issue with treatment covered under Medicare for All. As TANF was eliminated under UBI, child support programs were restructured and handled outside family court.

Care focused on earlier intervention, involving mothers and babies before the child entered school. This includes early home visits and parenting classes. These programs are available across socioeconomic classes, which helped reduce stigma. Teams including health care providers and human services specialists were deployed for early home visiting. Sometimes ‘promotoras’ or community health workers filled this role.

Child abuse and neglect came into sharper focus, aided by the data sharing among schools, health care and human services, as well as predictive analytics, which accessed nontraditional indicator sources, including purchasing behavior trends. Overall, the need for foster and out of home services decreased in the 2020s. Child welfare services were influenced by several factors, including:

- When a child must leave the parents’ home, the \$4000 yearly UBI child payment follows them to foster care, group homes or kinship placements
- Additional “success payment” for foster families gave the foster family a financial bonus when the foster child is successful
- The UBI payments to adult family members allowed some to take related children into their home
- Services became more tailored to specific needs; for example, gender neutral foster homes for LGBTQ youth

Education evolved as well. The Federal Government in the early 2020s followed California’s lead in making early childhood services, such as Head Start, Pre-K, and prenatal care, universally available. Learning and development were enhanced by better trained day-care providers and widespread use of engaging learning technology. This was balanced with socialization programs to combat the impacts of ‘screen time’. For adults or teenagers, further education or training, in the form of college, certificates and technical courses, were universally offered, which lessened the success gap.

### Housing and Community Development 3

Changing attitudes supporting equity and inclusion, the recognition of housing as a fundamental need, and effective leadership enabled policy and program changes that significantly increased the moderate, low-income and very low-income housing stock in the County, much of it in mixed income neighborhoods. Homelessness and housing were viewed as a barrier to health and wellness, and affordable housing became a high priority for public support.

Changing attitudes supporting equity and inclusion led to many housing efforts, including:

- 70,000 ADUs added across the County, with over half available as low-income housing - Following Los Angeles County’s lead, San Diego provided cash grants to home owners to build secondary units on their property and keep them at affordable rents for several years
- Increased building of public housing, including multi-family units
- Funding for more housing vouchers and regulations requiring their acceptance by landlords
- Advanced lower cost construction (3D printing of components or the whole house on site).
- Transportation improved, including low cost autonomous vehicle services, better connecting affordable housing residents to work opportunities
- Density bonuses given to builders in exchange for additional affordable housing in the development.

- Rent control and just-cause eviction protections.

Households became better able to meet many of their needs as they produced and co-produced food, energy, and other necessities. To get the benefit of low cost energy and storage to those renting, San Diego provided regulations and incentives for landlords to install these technologies and pass the savings on to renters.

Homelessness remained but was drastically reduced. UBI served to alleviate portions of chronic homelessness, but crisis- related homelessness (due to environmental emergencies, violence, or behavioral health) remained. Integrating mental and behavioral health with health care, and having these services be more accessible, lessened the number of those chronically homeless with severe mental illness.

### Self-Sufficiency Services 3

Self-sufficiency or income support payments were reduced during the 2017-2021 administration (and some eliminated altogether). Then, programs were redefined in the 2020s with the creation of the universal basic income (UBI). This largely eliminated EITC, CalWORKs and CalFresh. Housing programs were continued as were disability payments above the UBI level. Basic income was a national policy but gained popularity and support in California and San Diego with an increased focus on equity and new avenues for progress.

UBI payments and universal health care enabled many to have better lives in which they contribute to their communities and society. Most people continued with paid work where available. There was more equal access to education and effective job training, with growth in areas including the green and Maritime Industry/Ocean related jobs.

Financial and wealth literacy became a larger part of human services. New fiscal policies incentivized savings, including a program that matched savings for a house down payment. Human services worked to ensure that all residents of the County have a strong sense of meaning and contribution. Taking care of children, elders, neighbors; volunteering; developing the community were among contributions San Diegans pursued. Human services also promoted another avenue of self-sufficiency through the effective deployment of the “abundance advances” that lowered the cost of living.

Political and economic stability in the country allowed the United States to successfully welcome significant numbers of refugees throughout the 2020s. Refugees were provided housing and clothing, nutritional services, and physical and mental health care, and job and self-sufficiency training. As non-citizens, they did not get the UBI benefit. Cash assistance and services for these individuals and families came from federal, state, local, and private programs. Benefits for those seeking asylum and those granted asylum were better coordinated. Big data and other tools were used to aid asylum seekers and speed up their process.

In the 2020s there was immigration reform, and families had a path to citizenship. Immigrant service providers, often organized by the immigrant communities themselves, helped coordinate this assistance and advocate for their members. The isolation of immigrants and refugees was somewhat reduced by using effective, low cost language translation apps.

## Scenario 4: Thrive

The 2020s brought major changes in values, policies and technology nationally and in San Diego. Support for equity and inclusion became the norm and led to mixed income neighborhoods. The minimum wage rose beyond \$15 an hour to a living wage, even as much work moved from jobs to “gig work” and millions of jobs were lost to automation. Income support payment levels were raised and made permanent as structural unemployment was high and growing throughout the 2020s. And several technology advances lowered the cost of living and increased self-sufficiency as homes and communities could produce much of their needs – including energy, food, home goods and even low-cost housing. Job-training focused on work that would not be automated, on highly-effective volunteering, and on the ability to use self-sufficiency technology. The importance of *Live Well San Diego* grew in the 2020s as a powerful source of shared goals reinforcing equity and sustainable development. Delivery of human services became more integrated and efficient. San Diego was a leader of operating and delivering human services in a generative business model, creating additional value. Each client has a case manager/mentor who ensures they get the most appropriate services as well as support and encouragement for self-reliance. Many human service tasks were effectively automated and delivered via artificial intelligence and cognitive computing. There were fewer human service workers, but they specialized in providing human touch when needed and in doing quality assurance for the automated services. These changes, along with a shared sense of vision and community across San Diego, helped more people not only to survive but to thrive.

The 2020s saw accelerated change in attitudes, economics, and policies. The previous administration had ridden into office in 2017 on discontent with the economy – but little was done for those long unemployed and those newly unemployed because of automation. The economy grew during the late 2010s as did unemployment, income inequality, and gridlock in Washington. There was no national effort to raise the minimum wage even though many cities and states, including California, increased theirs. That changed in the 2020s as the national minimum wage was raised to \$15/hour and then increased toward a living wage.

A deeper value shift was continuing to take place toward more empathy, equity and inclusion. It became more visible near the end of the conservative administration in the late 2010s and became a powerful force in the 2020s. Nationally, this included the implementation of a living wage and pay protections for those working on the “gig economy”. Job training focused on skills needed in jobs or gig economy work that would not be automated.

Health and human services contributed to healthy strong communities through integrated, upstream and customized services focused on individuals and communities. The *Live Well San Diego* goals for life expectancy, quality of life, education, income, security, physical environment (air quality), built environment (access to parks), vulnerable populations (food insecurity) and community involvement were achieved. The unemployment rate goal was adjusted to reflect the high job loss to automation and an indicator of contribution /volunteering was added.

Families also became more self-reliant – producing some of their food and other goods and trading time and services. Technologies and community practices, often called “abundance advances” enabled some of this self-reliance. These technologies provided highly productive in-home food growing, local manufacturing (3D printing) of many home goods and electronics. For new housing, local materials were fed into 3D printers to produce the components for rapid construction of quality, low cost homes. Low cost solar and other renewal energy as well as in-home and in-community energy storage were widely installed in California by the late 2020s. Policies promoted the spread and use of these abundance advances – for example, requiring landlords to install and use low cost energy and share the savings with their tenants. Part of the work of human service workers and organizations was supporting low income families in the effective use of these advances.

Human services shifted towards a wellness model, addressing the physical, mental, and emotional well-being of individuals and families. Human services became more integrated, automated, efficient and effective. Programs were integrated across Federal, State and local levels, with accelerated eligibility determination and enrollment, data integrated across agencies and sites (e.g. school, work, medical care), customized care with predictive analytics. Predictive human service models were open-source and transparent, while the identity and integrity of the people involved remained protected.

Human services had adequate funds, including better pay for the reduced number of human service staff and adequate overhead for human service organizations. Each client and family had a case manager/mentor who ensured they get the most appropriate services as well as support and encouragement for self-reliance.

Many aspects of human service tasks were effectively delivered via virtual reality, smart phone apps and their successors in the 2020s. High speed internet was universally accessible. There were fewer human service workers, but they specialized in providing human touch when needed and in doing quality assurance for the automated services. While fewer human service workers were needed, socialization, healthy relationships and emotional connections as main contributors to wellness received continued emphasis. There were conscious community efforts to reduce isolation across the regions of the County and further stimulate contributions. Virtual tools work in combination with other forms of human connection.

As the mechanics of human service delivery and societal attitudes shifted, the results of human services were different. High utilizer costs were lower and costs overall were reduced , largely due to effective preventive measures. Longevity increased, and more deaths were prevented.

Data identify who is most at risk and determine precisely which services should be delivered, and how for best outcome. Human services and their tools worked to empower people into a higher standard of living. Policy is supportive of investing in preventive measures and the empowerment of individuals and communities. Equity continues to evolve and expand, along with human services. Quality drives

innovation and more outcome- based services. Human services have more public and political support for the ability to achieve outcomes and increase justice and reduce inequality.

## Aging and Independence Services 4

Aging and independence services accelerated their movement to more integrated, customized, and generative services. The ability to aid in addressing physical, social and spiritual need increased the wellness of low income seniors and disabled persons.

Physical and developmental disabilities, or their impacts were reduced, in part by: reductions in drug use, consistent pre-natal care; better genetic screening; slowing or reversal of chronic diseases, particularly diabetes, arthritis and Alzheimer's; and safer and healthier work places and work styles. *Live Well San Diego* was largely successful in promoting wellness and healthy lifestyles, which improved general health and lowered the impact or avoided some disabilities. Yet disabilities and disparities in disability levels along racial, ethnic and income lines persisted.

Formal, informal, and virtual senior and mixed ability centers all grew, expanding nutrition and activity opportunities. Most changed their names to community centers and engaged multiple generations- integrating senior services into libraries, schools, churches, cafes, and other settings. People share and trade services, time and goods in the community. There was a greater acknowledgement of the important role contributing has for a person's sense of meaning. Social and physical isolation decreased as meaningful relationships enhanced the community.

Better "aging in place" and "living well" in group living and co-housing grew steadily through the 2020s, as did "smart home" features for most San Diego residents. Features of many Freedom Homes and other homes included:

- Universal design became widespread in the 2020s; all new developments, multi-unit housing, and many individual homes are accessible
- Transportation was aided by self-driving car services
- In home and in community food production
- Smart home or phone-linked features play many roles- friend, bookkeeper, secretary, counselor, appliance and home maintenance monitor, and security monitor
  - Smart homes monitored elders' health and could track falls and other events. For example, sensors can detect and differentiate a slumping fall from a concussive fall and smart monitoring systems can anticipate falls by identifying changes in gait.
  - Smart hearing aids and language translators translate across languages but also enhance the volume and clarity of words, schedule appointments and communicate with doctors and arrange transportation.

Prevention and cures were found for diabetes, Alzheimer's, and many cancers. San Diego was a national leader in Alzheimer's research. Universal health care and virtual care helped more seniors received diagnoses and treatments.

Senior nutritional programs evolved through predictive analytics to customize nutrient needs, more local food, and more self and community food production. Medicare, Part E, for long term care services was created. Medicare also integrated nutritional services with health care services; some people were

'prescribed' diets by their doctors and this was covered or subsidized by health insurance. Programs such as 'more on the menu' to deliver fresh food to homebound seniors evolved along with technology and new food growing methods. Programs that teach children and seniors to grow food increased, with some success in healthier eating and reduction of diabetes.

## Behavioral Health Services 4

Behavioral health issues and care evolved through the 2020s. The societal value shifts toward inclusion and equity, aided by *Live Well San Diego*, removed some isolation of low income and marginalized communities. Services focused on population health and working with families on early childhood services and healthy brain development, while being intentional about achieving balance of practices, innovation, County engagement and stable funding.

Increased behavioral health literacy destigmatized mental health conditions and behavioral health care, leading to greater acceptance of people seeking treatment and being able to talk about it.

The growing power of genomics produced a large knowledge base of associations between genes and the environment, which enabled an explosion of epigenetic research showing how environments affect gene expression. For some behavioral health conditions that were largely genetic in their origin, in the 2020s effective genetic interventions were proven successful.

The Medicare for All system of the 2020s covered or provided these advances. Behavioral health and physical health were given parity in the health care system. Predictive analytics allowed behavioral health providers to anticipate individuals and families at risk and intervene. Universal developmental screenings, informed by this explosion of genetic, epi-genetic, environmental and social data, were a routine part of primary care as well as infant and child-care, Pre-K, and school testing.

While significantly reduced, some behavioral health issues remained in the 2020s, caused by genetic conditions, accidents, trauma, reduced but still present abuse and neglect, neighborhood violence; and the impacts of adverse childhood experiences in the 1980s and 1990s (when the current 40 and 30-year-olds were children).

The use of community health workers (CHWs) by health care providers in the County grew. These CHWs, often residents of the neighborhood they work in, met with families in their homes to identify needs and barriers and to reinforce care.

Homes for adults with behavioral health issues evolved with special smart home technology geared to resident's needs. Residents do home food production with conventional gardening and aeroponics; use virtual reality to relate to other communities; and generally, make themselves as self-reliant as possible. Some called these Freedom Homes.

The behavioral health workforce evolved. As behavioral health morbidity was significantly reduced, demand for care dropped. And virtual counselors displaced some human therapists. The ones that remain focus on the more challenging behavioral health conditions as well as oversee the automated systems.

## Child Services 4

The need for children, youth and family services was reduced, in part by the more inclusive, equity focused culture and policies put in place in the 2020s. California made strides in addressing residential segregation and historical racial inequities. The County was intentional about reducing the opportunity gap, desegregating neighborhoods in the County and approaching all human service work in culturally sensitive ways. The need for child and family services was also reduced by the introduction of a living wage and abundance advances which helped provide greater family security.

Multi-generational approaches became the default mode for child services in the 2020s because they were shown to be the most effective way to improve health and prosperity for families and communities. Family Strengthening Programs continued, combining behavioral health services, First Five services, eligibility/enrollment programs and others. These proved largely successful in lowering child abuse and neglect. Integrated data and predictive analytics identified at-risk children, allowing for early intervention. This too helped keep more children in their homes. A customized plan, specific to children and family members, was developed for each case.

As families and communities grew stronger in the 2020s, child abuse and neglect was reduced as was the need for foster care. More resources were available to help children stay in-home or with family members in healthy environments. More families were willing and able to take foster kids into their homes, despite the reduced demand. And gender-neutral homes for LGBTQ youth were common in most communities.

Other areas of child services that evolved included:

- Unintended pregnancies were further reduced, due in part to reliable access to high quality birth control covered with universal health care
- The number of single parent households declined as young people recognized that having two parent- or partner-led households offered more financial stability and other positive impacts
- Universal Pre-K received additional federal funding
- And national legislation followed California's lead in establishing parental leave along with universal access to infant and early childhood care; with help from California's early establishment of these benefits.

## Housing and Community Development 4

The growing support for equity and inclusion in San Diego County affected how neighbors and neighborhoods felt about low and very-low income housing, and special needs housing. Many people became more accepting and even welcoming of this diversity. Federal, state and local policies took advantage of this, facilitating more dense, mixed income housing with ample low-income units.

County and city regulations changed to allow secondary dwelling units built onto homes or in yards; and to allow more unrelated individuals in housing. 70,000 ADUs were created across the County, and some accepted housing vouchers. Funding for vouchers increased. Efforts to maintain and create community connectivity were made as people migrated across the County to newly constructed ADUs. Multifamily units also increased. Dense, transit-oriented development increased. Jobs and housing opportunities

aligned. Some large employers invested in housing developments. There were conscious efforts for new housing, particularly employer-sponsored housing, to be egalitarian and not reinforce segregation. Rent control was put in place, and increased housing efforts to assist middle class populations reduced resentment and stigma around services.

Housing services integrated with other areas, such as behavioral health and transportation. Housing services were consumer focused and used predictive modeling and advanced analytics to anticipate emergency housing needs. Human service deliverers and their partners' systems know if there have been layoffs or other challenges and check with families if they are at risk of missing utility or rent payments. Housing services coordinated with other agencies in using a self-sufficiency matrix to assess needs and identify best, case-specific plans of action for each person/family.

Homelessness was reduced because of more consistent work with higher minimum wages, better income support for those not employed, including housing choice vouchers, increases in low and very low income housing stock, and more consistent access to behavioral health services. The remaining homeless persons and families received more personal attention and services from County agencies and organizations. There is better awareness of the services available, and how to access them. Other aspects of housing services include: aiding aging in place, combining wellness focused medical services and education with housing, and involving landlords in prevention strategies.

#### Self-Sufficiency Services 4

California increased from minimum wage to living wage and there were some efforts to slow job loss to automation and to protect "gig workers" though structural unemployment grew throughout the 2020s. Job training related to income support programs focused on job training for positions not likely to be automated.

Many Californians' benefit from the federal EITC and CalEITC. As minimum wage reached \$15 an hour, then kept rising, the annual income of many workers exceeded the earned income and AGI limits. The higher wages also led to cost increases and inflation. The federal "poverty level" was adjusted accordingly. EITC and CalEITC income ceilings were raised; single individuals and childless couples were fully included and their payment levels increased.

CalFresh/SNAP and other nutrition programs rebounded in the 2020s, expanding their incentives to buy fruits and vegetables, particularly from local sources. CalWORKs/TANF payment levels expanded, as did the length of time they could be received. Nationally "Temporary" was removed from the TANF program's name as it became Aid to Needy Families (ANF).

California training for employment, focused on jobs that were increasing and that were not likely to be automated. Areas of growth included STEM, health sciences and technology sectors. Training also included how to increase family self-sufficiency by making effective use of the various abundance advances.

The regulations for income support programs, both federal and state, were adjusted to allow integration of support payments for an individual or family – this allowed both an aggregation of the funds and broader choice on how the funds were spent.

Human services also promoted “abundance advances” that lowered the cost of living. This cluster of physical and social technologies included:

- Low cost energy production and storage
  - There were incentives and regulations for landlords to install this equipment and pass the savings on to renters; in-community energy storage and net metering systems were developed
- 3D printing or other distributed manufacturing of home goods, electronics, home components and even whole homes
- Community and home food production – from community gardening to high tech vertical agriculture to in-home production
- Cultured meats and cheeses were widespread and affordable
- Trading of time and services among community members
- Optimizing AI and expert systems communities to provide monitoring, assessment; facilitate positive community development
- Optimizing self-driving vehicle systems use to supply flexible public transit and para transit.

The application of these abundance advances, enhanced self-sufficiency, particularly food production and lowered food and economic insecurity in the County.

### <sup>i</sup> Abundance Advances

Technologies that can help families and communities meet some of their basic needs and increase self-sufficiency are arriving and will become more widely used in the 2020s. These include technologies for low cost energy and storage, food production, and 3D printing of home goods, electronics, and even homes.

#### **Energy Abundance**

Low cost solar energy production and storage is likely in the 2020s. There are many potential avenues for this. Some solar cell technologies are nantennas, kerovskite and perovskite materials that will provide highly effective solar cells. Battery storage costs are decreasing, and are projected to continue to become less expensive (see, <http://reneweconomy.com.au/tesla-already-forcing-down-battery-storage-prices-in-australia-57681/>). Other forms of sustainable energy may develop as well, e.g. small scale cell fusion that produces low cost energy from sources in water may become available (see, University of Gothenberg in Science Daily, <https://www.sciencedaily.com/releases/2015/09/150925085550.htm>)

Hybrid perovskites may double the efficiency of solar cells, which could lower the cost per watt. (Phys Org, *Crystalline material could replace silicon to double efficiency of solar cells*, <https://phys.org/news/2017-04-crystalline-material-silicon-efficiency-solar.html>).

Other advances include solar cells designed to be full spectrum with the ability to capture nearly all the energy of the solar spectrum. (Tech Explore, *Scientists design solar cell that captures nearly all energy of solar spectrum*, <https://techxplore.com/news/2017-07-scientists-solar-cell-captures-energy.html>).

The cost of solar energy is declining, and there are forthcoming improvements in solar technology. As reported by the Solar Energy Industry Association (SEIA), from 2010-2017, the cost to install solar energy declined by 70% while solar grew in terms of installation and share of energy capacity across the United States. Labor costs, permitting and installation fees and supply chain costs related to solar likewise declined. (see, SEIA, "Solar Industry Data", <https://www.seia.org/solar-industry-data>). As projected by Green Tech Media, prices of solar are project to continue to decline at the rate of 4.4% for a 27% reduction by 2022. (see, Green Tech Media, *Solar Costs are Hitting Jaw-Dropping Lows in Every Region of the World*, <https://www.greentechmedia.com/articles/read/solar-costs-are-hitting-jaw-dropping-lows-in-every-region-of-the-world>).

Technological advancements lowering the cost of solar energy includes a new manufacturing process which claims the ability to reduce the cost of silicon wafers, "the platform for a solar power cell", by half. (see, E&E News, *Closing in on a solar power breakthrough*, <https://www.eenews.net/stories/1060044628>).

Another energy form projected to commercialize in the 2020s is small scale fusion, a form of energy production in which atomic nuclei release energy, capable of powering a small town using a unit the size of a flatbed truck. (see, 21<sup>st</sup> Century Tech, *Fusion Reactors Two Steps Closer to Reality*, <http://www.21stcentech.com/fusion-reactor-step-closer-reality>; and, Energy Fanatics, *Small-Scale Nuclear Fusion: Very Little Radiation and Limitless Energy*, <http://energyfanatics.com/2017/01/05/small->

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scale-nuclear-fusion-very-little-radiation-limitless-energy/). This is less expensive than solar and other energy forms, and serious investors in small scale fusion include prominent figures such as Jeff Bezos and Peter Thiel (see, <http://fortune.com/2015/09/28/jeff-bezos-peter-thiel-fusion/>).

### **3D Printing**

3D printing of goods may disrupt global supply chains and allow local and customized production of goods, often using sustainable and upcycled materials. This can include for better prosthetics and implants (see, United States Food and Drug Administration *Medical Applications of 3D Printing*, <https://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/3DPrintingofMedicalDevices/ucm500539.htm>).

3D printing of homes and multiunit buildings has already begun. For example, San Francisco based company Apis Cor built an entire small 400 square foot home through 3D printing in 24 hours. However, workers completed touches such as painting and some manual installation. <https://www.engadget.com/2017/03/07/apis-cor-3d-printed-house/>.

3D printed homes are also being manufactured at an economical price. Texas based company ICON has developed a 650 square foot 3D printed home that costs \$10,000 and they intend to lower the price to \$4,000. See Fortune, *This Company will 3D Print a House for \$10,000*, <http://fortune.com/2018/03/12/sxsw-2018-3d-print-home-icon/>.

### **Food Abundance**

Advances in food production include aeroponics and hydroponics (growing plants in an air, mist or water environment) to produce nutritious food in large amounts quickly and sustainably. This can be done in urban environments using vertical farms and other techniques.

According to the National Gardening Association, more Americans are growing food in their homes. Their 2013 report called “Garden to Table: a 5 Year Look at Food Gardening in America” found that 35% of Americans were growing food in their homes or in community gardens. There was a 17% increase between 2008 and 2013 with millennials being the fastest growing portion of the food growing demographic. Millennials nearly doubled the amount they spend on food gardening, reaching \$1.2 billion in 2013. The report found that households with children were increasingly growing food. Participation in community gardening increased 200%, and gardening in urban areas increased 29%. There was a 38% increase in food gardening for households earning incomes lower than \$35,000. See. <http://garden.org/about/press/press.php?q=show&id=3819&pr=pr nga> Accessed 20 June 2016.

However, a 2015 article on rootsimple.com, a source for resources on food and gardening lifestyle, reports that Google searches for topics such as “vegetable gardening” and “backyard chickens” is declining. The article suggests the decline may be due to a stronger economy in which people have less financial incentive to grow or make things themselves. This is notable, but as mentioned previously taste and quality of food are also top motivators for home grown produce. Additionally, the future may bring job loss and food prices are rising, and are subject to vulnerabilities such as oil prices. These drivers may influence Americans to grow food at home for economic reasons. See <http://www.rootsimple.com/2015/12/is-the-urban-homesteading-trend-over/> Accessed 20 June 2016.

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Cultured meat is progressing in taste and affordability and may be a sustainable and accessible source of producing protein. Impossible Foods (<https://www.impossiblefoods.com/>) is one of several companies that are producing fully plant-based meats and cheeses. Futurist Thomas Frey after reviewing these developments forecasts that “by 2025 industrial grown meats will become the world’s cheapest food stocks” <http://www.futuristspeaker.com/job-opportunities/the-coming-meat-wars-17-mind-blowing-predictions/> .

### **More Abundance**

For a more extensive look of abundance, some entrepreneurs project that technology will advance incredibly rapidly in the upcoming two decades and enable the basic needs of water, food, energy, health and education to be met for every person on the planet. See, Peter Diamandis and Steven Kotler, *Abundance: The Future is Better Than You Think*, 2012, New York, Free Press;

And nanotechnology expert K. Eric Drexler, argues that in the 2030s the full flowering of nanotechnology will allow us to do nano-manufacturing of most of our needs at relatively low costs – hence the title of his book: *Radical Abundance*. For example:

- Molecular biology and chemistry will enable many of the items we use daily will be able to be built with atomic precision.
- Transportation, construction, manufacturing, water and food production will become easier to do and so more accessible and beneficial to more people globally.
- With greater abundance, there may be less reason for competition between nation state.

See: Drexler, K. Eric. (2013). *Radical abundance*. New York: PublicAffairs.

### ii [Job loss to automation](#)

Job loss to automation and cognitive computing will have a major impact on the economy, family income, and the need for human services in the years ahead. We believe it has been happening and it will eliminate more jobs through the 2020s. As in past disruptions of this type, new jobs will be created. Some of these are identified in the sources below. And there will be teaming of AI and human workers (in 2017 the best chess competitors are teams of humans, without grand master chess champions and multiple computers, no supercomputer as often used for IBM’s Watson). Yet the new jobs are likely to be far fewer than the jobs lost. For these human services scenarios, we have developed estimates across the scenarios, based on the references below. We have worked with human service experts to apply and check forecast for specific human service jobs as well. Here are highlights of the forecasts which indicate the range from which we developed the forecasts we are using in our scenarios.

- Within five years, robots and so-called intelligent agents will eliminate many positions in customer service, trucking and taxi services, amounting to 6 percent of jobs, according to a Forrester report. "By 2021, a disruptive tidal wave will begin," said Brian Hopkins, VP at Forrester, in the report. "Solutions powered by AI/cognitive technology will displace jobs, with the biggest impact felt in transportation, logistics, customer service, and consumer services." <http://www.cnbc.com/2016/09/12/ai-will-eliminate-six-percent-of-jobs-in-five-years-says-report.html>
- Forrester forecasts in the report “The Future of White-Collar Work: Sharing Your Cubicle With Robots” that cognitive technologies such as robots, artificial intelligence (AI), machine learning, and automation will replace 22.7 million (or 16%) of U.S. jobs, while 13.6 million will be created

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— a net loss of 7% of U.S. jobs by 2025. Office and administrative support staff will be the most rapidly disrupted. Newly created jobs will include robot monitoring professionals, data scientists, automation specialists, and content curators: See, Forrester referenced in Fast Company, *Robots will Take Your Job, But First They'll be Your Annoying Co-worker*, <https://www.fastcoexist.com/3050428/robots-will-take-your-job-but-first-theyll-be-your-annoying-co-worker>

- McKinsey Global focuses on probability of tasks within occupations being automated, and determined that 49% of time spent on tasks could be automated with current technologies, but only 5% of total jobs in the report “A Future that Works: Automation, Employment, and Productivity; Harnessing Automation for a future that works” <http://www.mckinsey.com/global-themes/digital-disruption/harnessing-automation-for-a-future-that-works>.
- An OECD policy brief “Automation and Independent Work in a Digital Age” forecasts that an average of 9% of jobs are at high risk for automation; these are jobs for which 70% of the tasks could be automated. <http://www.oecd.org/employment/Policy%20brief%20-%20Automation%20and%20Independent%20Work%20in%20a%20Digital%20Economy.pdf>.
- A study by the UK office of PWC analyzed the workforce in several countries. In terms of specific sectors, it found different degrees of risk for automation: transportation and storage (56%), manufacturing (46%) and wholesale and retail (44%), but lower in sectors like health and social work (17%). For countries overall, the jobs at high risk of automation by the early 2030s are U.S. (38%), Germany (35%), UK (30%) and Japan (21%). PWC, *Will robots steal our jobs? The potential impact of automation on the UK and other major economies*, PWC UK Economic Outlook, March 2017, pg 30, <https://qz.com/941163/pwc-study-automation-risk-is-higher-for-american-jobs-than-for-workers-in-germany-the-uk-and-japan/>
- Oxford University researchers Frey and Osborne project about 47% of total U.S. employment is at risk for automation in the 2013 report “The Future of Employment: How Susceptible are Jobs to Computerization?” [http://www.oxfordmartin.ox.ac.uk/downloads/academic/The\\_Future\\_of\\_Employment.pdf](http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf)
- **New Jobs Created**

There will be new jobs created. The Forrester study cited above, and others, identify some of these: Forrester forecasts in the report “The Future of White-Collar Work: Sharing Your Cubicle With Robots” states that 9% of overall jobs (8.9 million) will be created.

The cognitive era will create new jobs, such as robot monitoring professionals, data scientists, automation specialists, and content curators: Forrester forecasts 8.9 million new jobs in the U.S. by 2025. Forrester forecasts Artificial intelligence (AI) will be a \$47 billion industry by 2020. The top ten AI technologies are: natural language generation, speech recognition, virtual agents, machine learning platforms, AI optimized hardware, deep learning platforms, semantic technology, biometrics, image and video analysis, and robotic process automation.

Gartner forecasts that by 2020, 20% of businesses will have workers that monitor and guide neural networks. (See “The Disruptive Power of Artificial Intelligence” <http://www.gartner.com/smarterwithgartner/the-disruptive-power-of-artificial-intelligence/>)

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IBM CEO asserts that ultimately AI will create jobs- including programmers, developers, and jobs that manage the relationship between AI and humans (See Business Insider, “IBM CEO says AI and automation will create jobs” <http://www.businessinsider.com/ibm-ceo-says-ai-and-automation-will-create-jobs-2017-1>)

Forrester Research, a marketing research company, projects that 15 million new jobs will be created in the U.S. over the next decade, resulting from automation and artificial intelligence. The report explains that most new jobs will be in the fields of software, engineering, design, maintenance, support and training. Newly specialized lawyers will be needed to regulate the interaction between humans and robots, and new human resources positions in guiding staff as robots enter the workplace (See “This is how many U.S. jobs robots will create over the next 10 years”, Jacob Passy for Marketwatch.com, 2017, <http://www.marketwatch.com/story/this-is-how-many-us-jobs-robots-and-automation-will-create-over-the-next-10-years-2017-04-04>) Other future jobs include avatar designers, synthetic acting casting agents, roboticists, fluid interface engineers and programmable surface designers.

### iii Developing low and very-low income housing options

Housing remains a major human need. Housing insecurity brings a series of other needs. Communities around the country are and will use a variety of approaches to increase the stock of low and very low income housing, including:

- Rezoning to allow secondary living units on the property of single family homes and encouraging building on empty space in the yards around homes;
- Allowing a higher number of unrelated individuals to live in the same house;
- Encouraging sustainable, energy efficient, low cost construction of new units;
- Fostering neighborhood parking and driving regulations to dampen traffic from increased residents;
- Taxing unoccupied homes;
- Prohibiting or taxing AirBnb and related uses of rental properties or taxing that use to provide a fund to make other properties available;
- Require or incentivize landlords to accept housing vouchers;
- In addition to federally funded vouchers create state or locally funded vouchers;
  - This serves to help alleviate concentrations of poverty by giving voucher holders more options of where to live.
- Tax construction profits to add to the funds for low income housing development;
- When low cost solar and other sustainable energy production and storage becomes available, require or incentivize landlords to install this and pass the savings on to renters;
  - Or enable, through loans from utilities or others, to install this equipment; paying the loans off with the energy savings.
- Adjust regulation to support fast construction of safe, sustainable and energy efficient new developments that include very low income housing;
- Support and encourage alternative construction, including 3D printing of housing components and repurposed materials, using modular and “tiny homes”;
  - use of local 3D printing of home parts with quick on-site assembly will be available in many communities in the 2020s<sup>iii</sup>
- Following Los Angeles’ lead, providing cash grants to home owners to build secondary units and keep them at affordable rents for several years.

- As the city of Denver demonstrated, where some high-end apartments are vacant, subsidize low to middle income renters moved into the units. (Fast Company, *Denver's Solution to Its Housing Crisis: Subsidize Rent for Expensive, Empty Apartments*, <https://www.fastcompany.com/40515202/denvers-solution-to-its-housing-crisis-subsidize-rent-for-expensive-empty-apartments>).
- Use various combinations of these approaches to deconcentrate poverty.

#### iv The Universal Basic Income

The universal basic income, also called the Guaranteed Basic Income, the Negative Income Tax, the Citizen's Income, and the Basic Income Guarantee has been proposed by conservatives and liberals in the U.S. for decades. Richard Nixon proposed the Negative Income Tax.

Leading conservative Charles Murray supports basic income to help keep the United States competitive during labor market transformation to robotics and replace the current welfare program (see Murray, "A Guaranteed Income For Every American," Retrieved from: <https://www.wsj.com/articles/a-guaranteed-income-for-every-american-1464969586>).

Support by liberals and conservatives offered different rationales. For example, some conservatives favor reduced government spending, eliminating duplicative programs and staff, through an effective way to reduce poverty (see The Atlantic, "The Conservative Case for a Guaranteed Basic Income" 2014, <https://www.theatlantic.com/politics/archive/2014/08/why-arent-reformicons-pushing-a-guaranteed-basic-income/375600/>).

Basic income is presented as a way to make welfare programs more impactful, challenge ideas of safety nets, adapt to technological change and evolve the relationship between work, income and identity. See, Flowers, Andrew (Apr 25, 2016). *What Would Happen If We Just Gave People Money?* Retrieved from: <http://fivethirtyeight.com/features/universal-basic-income/>

Basic income experiments have taken place across the world. In Canada and Namibia, both of their UBI experiments saw a reduction in poverty and other positive impacts. The Canadian province Manitoba piloted basic, minimum income- referred to as "mincome"- in the mid-1970s. Although the program was removed after a few years, it yielded positive results including higher rates of remaining in school, lower rates of hospitalization, and hardly a change in work rates (see Surowiecki, James. "Money For All". *The New Yorker*. N.p., 2016. Web. 7 July 2016). The amount of money recipients received was determined by need (see Lum, Zi-Ann. "A Canadian City Once Eliminated Poverty And Nearly Everyone Forgot". *The Huffington Post*. N.p., 2016)

Finland is currently piloting a basic income, which aims to cut red tape and reduce poverty and unemployment. (See, The Guardian, "Finland trials basic income for Unemployed," <https://www.theguardian.com/world/2017/jan/03/finland-trials-basic-income-for-unemployed.>)

Hawaii has become the first state to pass a bill in its State Legislature to study a universal basic income, (UBI) bill HRC89. Hawaii has experienced job declines in their agricultural sector and service jobs being automated. The bill sets up a working group to explore options for a state UBI, involving members from State House and Senate, director of human services, Chamber of Commerce and University of Hawaii's Economic Research Organization. This group will develop policy recommendations. (See, Vox, "Hawaii is

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considering creating a universal basic income”, <https://www.vox.com/policy-and-politics/2017/6/15/15806870/hawaii-universal-basic-income> and Business Insider, “Hawaii just became the first U.S. state to pass a bill supporting basic income” <http://www.businessinsider.com/hawaii-basic-income-bill-2017-6>).

There has been growing support in recent years as the forecasts for job loss to automation have grown. The projections for total job loss by roughly 2030 in the United States range from: 47% (Frey and Osborne), 38% (Price Waterhouse Cooper), to 9% (OECD).

While there are a range of levels that the UBI has been proposed e.g. \$10,000 income plus 3,000 for health insurance, up to \$32,000 yearly in Switzerland; the level in this forecast \$12,000 yearly for adult citizens and \$4,000 per child is proposed by Andrew Stern (see Stern, Andy and Lee Kravitz. *Raising The Floor: How A Universal Basic Income Can Renew Our Economy And Rebuild The American Dream*. 1st ed. New York: Public Affairs, 2016. Print.)

The costs of a UBI would be roughly 3 trillion yearly. Stern argues that an income of \$12,000 for every adult, would cost between \$1.75-\$2.5 trillion in federal funds each year. The \$4,000 for each person under 18 would add another \$296 billion. Stern’s book proposed several ways to pay for the UBI, which have been supported by other experts:

- Ending all or many of the current 126 welfare programs<sup>iv</sup>, which cost \$700 billion in government and \$300 billion state government
  - Eliminating food stamps (save \$76 billion), housing assistance (\$49 billion), and EITC (\$82 billion)
- Adjusting long term retirement policy for future generations, but not changing Social Security for those who have already been contributing to the system
- Creating a new and more cost effect non-employer based healthcare system
- Some redirection of government spending and taxation
  - Raise revenue by eliminating all or some of the federal governments \$1.2 trillion in tax expenditures; do away with reductions such as investment expenses, preferential treatment of capital gains, foreign taxes, charitable contributions, mortgage interest, and accelerated depreciation.
- Increased revenue from new sources
  - Consider a value added tax (VAT) of 5 to 10% on the consumption of goods and services, with all revenue funding basic income
- Implement a Financial Transaction Tax (FTT) (also known as the “Robin Hood Tax” and “Tobin Tax”) a tax on financial transactions, such as a federal tax on stock sales
- Wealth tax, a levy on the total value of personal assets, including housing and real estate, cash, bank deposits, money funds, stocks, etc.
- Look at trimming expenditure on the federal budget, such as reducing military budget (current \$600 billion), farm subsidies (\$20 billion), or subsidies to oil and gas companies (\$30+ billion)
- Carbon Tax, which at a rate of \$15/ton of CO<sub>2</sub> would bring \$80 billion in annual revenue, or about \$250 per U.S. resident
- A “common goods tax” such as the one placed on oil to fund the Alaska Permanent Fund