COUNTY ECONOMIC REPORTS
IMPERIAL

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EXECUTIVE SUMMARY

Imperial County is in the southeast corner of California and shares borders with San Diego County, Riverside County, Yuma County (Arizona) and Mexico (State of Baja California and the region/City of Mexicali). The County has a 2019 population of 190,266 which represents a decrease of 266 persons from one year ago. Over the next five (5) years, it is projected the County population will increase by a total of 3.1% (or about .6% per annum) which is slightly less than the projected growth of the State of California as a whole. The economy of the region continues to be based on the following industries:

A. Agriculture (Livestock and Crops)
B. Energy Production (Solar, Wind, Geothermal)
C. Prison/Detention Facilities (Federal and State)
D. Border Security (namely Department of Homeland Security)
E. Logistics (Goods Movement of Agriculture Products and Products Assembled in Mexicali through the Maquiladora Program).
F. Local Serving Small Businesses (Traditional Retail, Restaurants and Service-Oriented)
G. Local/Regional Government and Related Services (Police, Fire, Education)

The Imperial Valley historically has higher unemployment rates than other areas in California. This is a function of three factors. First, the region’s largest industry is agriculture, which has seasonal elements impacting labor. Next, the region is located along an international border (Mexico). The greater Mexicali Valley (located just south of the international border) has a population of approximately 1,100,000 or about five times that of Imperial County. The sheer size of Mexicali and proximity to Imperial County provides for greater immigration/migration for work, shopping, entertainment and housing which influences unemployment rates as people (from both sides of the border) enter and leave the labor force.

Finally, Imperial County is more rural in nature than most areas in California. Population density in California is approximately 251 persons per square mile while population density in Imperial County is only 42 persons per square mile. The region struggles with socioeconomic issues as a result of lack of job opportunities in higher paying industries and low educational achievement.

Since the Great Recession, the region has experienced significant economic investment in the form of utility scale renewable power production facilities (solar, wind, geothermal). Additionally, some foreign-direct investment has taken place through the EB-5 Visa program. The EB-5 Visa program administered through the United States Customs and Immigration Service (USCIS) provides an opportunity to for permanent residency in the United States by foreign nationals that invest a minimum of $500,000 into a business/development that generates 10 or more permanent full-time jobs.

As the renewable portfolio standard (RPS) requirements continue to increase, so has investment in the region. California has met the RPS standard of a minimum of 33% (SBX1-2) and is now working toward the implementation of SB350 which increases the RPS standard to 50% by 2030. In September 2018, former California Governor Jerry Brown signed SB 100 into law, which sets the bar for California to generate 100% of energy through renewable sources by the year 2045.

Imperial County has been a leader in renewable power generation. In 2018, Imperial County produced 8,067 GWh of renewable energy, which ranks them as sixth by County in renewable energy production in the State of California (behind Kern, Los Angeles, Contra Costa, San Bernardino and Riverside Counties). Overall, Imperial County produces about 13% of California’s 62,960 GWh of renewable energy.

The report that follows will provide a statistical understanding of the region’s economy, after which the report will conclude with a forecast section to guide potential investors, government officials, business leaders and residents into 2020.
A. STATUS OF THE IMPERIAL COUNTY ECONOMY

Overall, the economy of Imperial County is stable. Gross domestic product (GDP) for the region is estimated to have exceeded $6 billion in 2018, an all-time high. The GDP equals about $32,491 per capita in the region. By comparison, the GDP per capita of the United States is about $62,600. The GDP of the Imperial County region (per capita) compares to that of Italy ($34,206) and The Bahamas ($34,003) and would be ranked 26th in the world by per capita GDP if it were a stand-alone nation.

EXHIBIT A-1  GROSS DOMESTIC PRODUCT (GDP) OF IMPERIAL COUNTY (EL CENTRO MSA) 2012–2018

Sources: Bureau of Economic Analysis & DMG Economics

As of September 2019 (October 18, 2019 release), the unemployment rate in Imperial County was 20.6%. This figure is higher than the same period in 2018 (19.3%), though lower than it has been from the period of 2008-2016 when it averaged about 25.4%. As a reference point, unemployment at the height of the “Great Recession” was 32%. The total number of persons in the labor force decreased by 1,800 over the past year from 74,500 to 72,700. The total amount employed is now 57,700 which is about 2,400 less than it was at this time last year (October 2018).

DMG, Inc. holds that one reason why Imperial County sees fluctuations in labor force size is due to the proximity of Imperial County to Mexicali, Mexico (a region over five-times the size of Imperial County). There is a significant labor force in Mexicali that enters and leaves the United States through Mexicali. Also, as the quality of jobs in the United States continues to increase, persons working in more labor intensive (and lower paid) industries in Imperial County tend to migrate to higher paying jobs in other regions/states. The transitory nature of Imperial County’s primary economic engine (agriculture) coupled with its proximity to Mexicali often creates pronounced swings in labor and employment/unemployment figures. EXHIBITS A-1 - A-5 provides trend data regarding the labor force, employment, total persons unemployed and the unemployment percentage.
EXHIBIT A-2  TOTAL AVAILABLE IMPERIAL COUNTY LABOR FORCE (2004–2019e)

EXHIBIT A-3  TOTAL PERSONS EMPLOYED IN IMPERIAL COUNTY (2004–2019e)

Source: State of California Employment Development Department
EXHIBIT A-4  TOTAL PERSONS UNEMPLOYED IN IMPERIAL COUNTY (2004–2019e)

Source: State of California Employment Development Department

EXHIBIT A-5  IMPERIAL COUNTY UNEMPLOYMENT RATE (2004–2019e)

Source: State of California Employment Development Department
B. INDUSTRY & OCCUPATIONAL ANALYSIS

Approximately 30% of the total jobs in Imperial County are within government agencies (local, state and federal). The seven incorporated cities along with the school and utility districts account for local jobs while state jobs are driven by the presence of state prisons and Federal jobs are predominately by border security (Department of Homeland Security) and a privately-operated immigration detention facility. The greatest numbers of private sector jobs are associated with the agriculture (farming, transportation and some administrative support) and retail sectors (sales). EXHIBIT B-1.1 thru B-1.4 provide a breakdown of the number of jobs by occupation and a comparison between 2015-2019. Over the period shown, the greatest job losses have been in the fields of Construction (-1,800), Sales (-900) and Office/Administrative (-600) while the greatest gains have been seen in Farming (+2,300), Food Preparation (+1,700), Healthcare Practitioners (+900) and Education (+600). EXHIBIT B shows historical job distribution (2015-2019). Note that B-1.1 is an overall distribution chart (that is marginally understandable), while B-1.2, B-1.3 and B-1.4 provide a more digestible view. B-1.2 is specific to job categories whereby the total jobs have ranged between X and Y while B-1.3 comprises of job categories of between X and Y total employment and B-1.4 is for those job categories with less than 1,000 total participants. There is some overlap in total employed in certain job categories between B-1.2 and B-1.3, this is due to volatility in that particular job category.

EXHIBIT B-1.1 DISTRIBUTION OF JOBS BY OCCUPATION TYPE

Source: State of California Employment Development Department

1 Economist Note: The graphs and analysis in this section are based on minimum current employment of between 100 persons within a specific category (position). While this could be considered low in terms of pure numbers, consider that the population of Imperial County is about 190,000. Scaled in comparison to Los Angeles County where the population is about 10.25 million people, the same minimum requirement ratio is 54 persons per Imperial County person. Another way to explain it is for each 100 persons employed in a position in Imperial County, it would take 5,400 persons in Los Angeles County to reach the same scaled ratio.
EXHIBIT B-1.2 DISTRIBUTION OF JOBS BY OCCUPATION TYPE (2K–8K TOTAL EMPLOYED)

Source: State of California Employment Development Department

EXHIBIT B-1.3 DISTRIBUTION OF JOBS BY OCCUPATION TYPE (1K–4K TOTAL EMPLOYED)

Source: State of California Employment Development Department
EXHIBIT B-1.4 DISTRIBUTION OF JOBS BY OCCUPATION TYPE (UNDER 1K TOTAL Employed)

Source: State of California Employment Development Department
EXHIBIT B-2 provides an understanding of job/occupational distribution ranked by median annual pay. The total number of jobs within the region is listed in parenthesis (in thousands of jobs). As a reminder the comparative ratio between Imperial County and Los Angeles County is 1:54, meaning if an industry has 500 jobs in Imperial County, it would have to have 27,000 jobs in Los Angeles County to have the same statistical significance on that economy. The median pay for all industries in Imperial County is $46,600 per year. Note that six of the seven largest occupational categories pay less than the median.

EXHIBIT B-2 2019 OCCUPATIONAL CATEGORIES BY MEDIAN ANNUAL PAY (JOB COUNT IN THOUSANDS)

Source: State of California Employment Development Department

In terms of professions with anticipated growth, EXHIBIT B-3 provides total new opportunities as projected from 2016-2026 in Imperial County (minimum 1,500 positions). Only three (3) of the projected growth areas are in areas which provide a path to the middle class (office/administrative, farming/ranching managers, heavy equipment operators) sales, education, management, health care practitioner and farming/ranch/agriculture management) while seven (7) of the projected growth areas are in lower paying job classifications (farming (general labor), personal care, cashiers, janitorial, stock clerks, food preparation and retail sales).

EXHIBIT B-4 shows the occupations that are expected to grow by a minimum of 1,500 jobs over the next ten (10) years by median salary/wage. Note that as California continues to step minimum wage to $15.00 per hour, these will change. Additionally, jobs that are traditionally 10% to 20% above minimum wage (such as a bank customer service representative/teller) will also move higher meaning such job is predicted to pay $17-$19 per hour in 2022.
EXHIBIT B-3  PROFESSIONS WITH ANTICIPATED GROWTH BY NUMBER OF NEW POSITIONS (2016–2026)

Number of Jobs

<table>
<thead>
<tr>
<th>Profession</th>
<th>Number of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming (General Labor)</td>
<td>13,000</td>
</tr>
<tr>
<td>Personal Care (Home Health)</td>
<td>11,000</td>
</tr>
<tr>
<td>Cashiers</td>
<td>9,000</td>
</tr>
<tr>
<td>Retail Sales</td>
<td>7,000</td>
</tr>
<tr>
<td>Food Preparation</td>
<td>5,000</td>
</tr>
<tr>
<td>Office/Administrative</td>
<td>3,000</td>
</tr>
<tr>
<td>Janitorial</td>
<td>1,000</td>
</tr>
<tr>
<td>Farming/Ranching/Agriculture Mgrs</td>
<td>1,000</td>
</tr>
<tr>
<td>Heavy Equipment Op &amp; Truck Drivers</td>
<td>1,000</td>
</tr>
<tr>
<td>Stock Clerks/Order Fulfillment</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Source: State of California Employment Development Department

EXHIBIT B-4  PROJECTED HIGH GROWTH OCCUPATIONS (1,500+ JOBS BY PAY) 2016–2026

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming/Ranching/Agriculture Mgrs</td>
<td>$100,500</td>
</tr>
<tr>
<td>Heavy Equipment Op &amp; Truck Drivers</td>
<td>$36,900</td>
</tr>
<tr>
<td>Office/Administrative</td>
<td>$29,100</td>
</tr>
<tr>
<td>Janitorial</td>
<td>$28,900</td>
</tr>
<tr>
<td>Retail Sales</td>
<td>$23,900</td>
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<tr>
<td>Stock Clerks/Order Fulfillment</td>
<td>$23,700</td>
</tr>
<tr>
<td>Farming (General Labor)</td>
<td>$23,400</td>
</tr>
<tr>
<td>Personal Care (Home Health)</td>
<td>$23,400</td>
</tr>
<tr>
<td>Food Preparation</td>
<td>$23,200</td>
</tr>
<tr>
<td>Cashiers</td>
<td>$22,900</td>
</tr>
</tbody>
</table>

Source: State of California Employment Development Department
C. AGRICULTURE PRODUCTION AS A LEADING INDUSTRY

Agriculture is the largest private sector industry in the Imperial Valley. In fact, about 36% of the GDP of Imperial County is based on agriculture production. Unfortunately, the direct jobs associated with the industry are traditionally low pay, agriculture supports many families in a variety of occupations (direct farming, professional/business (including accountants) and transportation. That said, as long as the overall ownership of agriculture production in the region is “family farms” (rather than out of area corporate ownership) farming will still produce significant wealth for the region, that is generally saved and reinvested back into Imperial County.

The region actively farmed 537,192 acres in 2018. This is a decrease of about 0.39% from 2017 when 539,272 were farmed (a decrease of 2,080 acres). In 2018 Imperial County actively farmed 839 square miles of land. This is larger than the combined size of the cities of Los Angeles and San Diego. Exhibit J provides the total agriculture production for Imperial County. In 2018, agriculture production hit an all-time high of $2.226 billion (or about $4,144 per acre farmed). This represents an increase of $160.43 million (7.8%) from 2017.

It is noted that the Imperial County region continues to expand the acreage utilized for organic crops. In 2018, 46,850 acres (73 square miles) was utilized to produce organic crops having a value $181.75 million ($3,879 per acre). This is up from 2014 when 25,156 acres (39 square miles) was utilized producing $159.94 million in value ($6,358 per acre). The lower production value per acre between 2014 and 2018 is attributed to the greater amount of overall land worldwide utilized for organic production, this lowering the overall prices to the wholesale market (and ultimately the consumer).

The Imperial Valley exports a significant amount of crop/seed. International exports are focused on Japan (40%), Mexico (34%), Peoples Republic of Korea (South Korea) (7%) and Canada (5%). The products most often exported include hay/straw, vegetables and seed. Overall, it is estimated that about $525-$550 million of agriculture product is exported (about 25% of total production).

Domestically, Imperial Valley crops are most often exported to Hawaii and Florida (these two states account for over 95% of product export within the United States). The crops most often exported domestically include vegetables and nursery (plant) products.

The agriculture industry as a whole in the Imperial Valley has weathered some difficult headwinds. Rising costs in the face of increasing minimum wage in California, increased transportation expenses and trade uncertainty is creating significant concern for local farmers. While not shown in figures (through 2018), there is some market disruption occurring at current (2019) as the trade war between China and the United States has impacted exports of hay/grass crops. Further, China has imposed new restrictions in relation to chemicals used on crops to control weeds and pests. Imperial County farmers are making strides to comply with these new restrictions, but it will take a few more years for most to be in full compliance.

Labor continues to be of concerns. Minimum wage increases in California may push some crop production to other states/countries that have more labor available at less cost. Further complicating labor availability in Imperial County was described by one farm labor contractor as a “lack of coherent immigration policy by Congress and political rhetoric from the President”. Combine this with concerns that the “younger” generation is reported to have little interest in family farm business ownership that generally requires 12-16-hour days, seven (7) days a week and it is fair to say that long-term certainty in the industry is anything but stable.

Water continues to be the top concern for Imperial Valley farmers. While California received a respite from the five (5) year drought (2012-2016) with some rain in the winter of 2017 and significant rain during the winter of 2019, drought conditions can quickly return. Pending water transfers to San Diego coupled with the potentially devastating impacts of exposed playa at the Salton Sea may generate additional issues. The State of California has not constructed any new water storage in decades and continues to “kick the can down the road” to lasting meaningful solutions to the Salton Sea.

Farmers are working to decrease their dependency on labor and create crops that can thrive on less water as a means of working to mitigate the effects of policy (or lack thereof) issues. Additionally, some farmers continue to move more labor-intensive crops out of state and to neighboring countries.
EXHIBIT C-2 provides historic production numbers for livestock. Much of the livestock production is specific to “feeder beef” which is the raising of calves to prepare them for market. During this time an individual animal may consume approximately 3 tons of feed. The profit (value) in an animal is a function of both market price and the cost of food. The production of livestock in the Imperial Valley declined about 17.5% between 2017 and 2018 from $452.17 million to $532.13 million. In 2018, the cattle market saw prices with a high of $130 per pound and a low of $1.03 per pound (which is considered relatively stable). Over the past twelve (12) months (November 2018 to November 2019), cattle market has seen a larger price fluctuation that in the prior year with a high of $1.30 per pound and a low of 94 cents per pound.

Many cattle farmers in the Imperial Valley are considering or actively pursuing permits to increase their capacity. As of this writing, it appears that another 50,000 head of cattle may be permitted to be raised in the region, which will substantially increase the overall value of cattle production (so long as prices stay stable). This is a significant change from one year ago when cattle farmers were thought to be thinning herds as there was an anticipated “glut” of cattle in the marketplace. The change in business behavior is largely attributed to the increase in branded or boutique cattle farming. In the simplest of terms, consider that it wasn’t often that folks purchasing beef at a grocer were concerned with the “name brand”. Today, names such as Harris and Brandt have seen higher demand, thus creating a market for specialty or natural (organic/grass/corn) fed brands. Finally, One World Beef, the region’s only mass production beef processing facility continues to grow its business, thus helping drive a need for additional cattle production and creating additional employment opportunities.
Field crops accounted for $507.85 million of production in 2018. This is marked a significant increase year over year (2017) of $142.03 million or 38.8%. The number of acres in production in 2018 was 341,229 (a 14,562 acre increase from 2017 which saw 326,667 acres farmed for field crops). Overall field crops took up more space (533 square miles) than the size of the entire City of Los Angeles (486 square miles). Overall field crop prices (blended) increased to $1,488 per acre from the 2017 figure of $1,119 per acre. Historic per acre production includes; $1,643 (2014), $1,208 (2015) and $1,142 (2016). Crop prices were higher for both Alfalfa and Bermuda Grass, while Sudan Grass and Wheat prices decreased.

As stated earlier, there is concern for the 2019 and 2020 crop as the trade issues with China are creating uncertainly for farmers. Further complicating farming in the Imperial Valley is competition from states such as Idaho and South Dakota relative to wheat. Some farmers predict that wheat (which is currently a $13.5 million annual crop over about 24,000 acres) may cease to exist in the region due to pricing pressures from other regions.

The top five crops in this category (production value) include Alfalfa ($1218.5 million), Bermuda grass ($95.5 million), Sugar Beets ($54.9 million), Sudan grass ($52.7 million) and Klein Grass ($41.1 million). EXHIBIT C-3 provides a historical chart of field crop production in Imperial County.
Vegetables and melons accounted for $984.47 million, a decrease (3.3%) over 2017 when crop production was $1,018.8 billion. The number of acres in production increased by about 3% from 128,769 acres (2017) to 132,604 acres (2018) Crop value per acre (blended) decreased from $7,912 per acre (2017) to $7,424 (2018) or about 6%.

The crops with the highest production value for 2018 included Leaf Lettuce ($122.63 million), Head Lettuce ($115.16 million), Broccoli ($100.98 million) Onions ($98.64 million) and Spinach ($84.29 million). EXHIBIT C-4 reflects the historic production values for Vegetable and Melon crops.

**EXHIBIT C-4**  TOTAL VEGETABLE AND MELON CROP PRODUCTION (IN MILLIONS OF $) BY YEAR

![Graph showing total vegetable and melon crop production](image)

Source: County of Imperial Agriculture Commissioner

Fruit and nut production decreased slightly from $85.2 million in 2017 to $83.9 million in 2018. At the same time, production acreage increased from 10,209 to 10,328 acres (an additional 119 acres). Production by acre for 2018 dropped to $8,125 from $8,279. The decline began from 2015 when production per acre was $9,487 per acre. Over the past two years, DMG, Inc. predicted this category would be a beneficiary of the region’s water supply certainty. DMG, Inc. has predicted that the more stable water supply in Imperial Valley (compared to California’s Central Valley) would result in a shift to some higher valued crops. Specifically, both lemons and date (groves) have expanded by about 200 acres each in the past year.

Imperial Valley produce crop (fruit and nut) is led by lemons and dates. Lemons accounted for $43.7 million of value in 2018 while dates accounted for $24.2 million of value. Combined, lemons and dates account for over 80% of the produce crop in Imperial Valley. Tangerines and grapefruit represented a production value of $4.1 and $3.2 million respectively in 2018. EXHIBIT C-5 below shows historic production.

**EXHIBIT C-5**  TOTAL FRUIT & NUT PRODUCTION (IN MILLIONS OF $) BY YEAR

![Graph showing total fruit and nut production](image)

Source: County of Imperial Agriculture Commissioner
EXHIBIT C-6 shows the history of seed production in the region. Seed production is a vital component to the agriculture economy. There are farming entities that specialize in the generation of seed that is used locally, domestically and internationally. Further, primary research (interviews) with those in this segment of the industry shows that there is significant technology and testing involved in creating seeds that provide for higher production, greater drought tolerance and overall hardiness. In 2018, $109.21 million of seeds were produced versus $137.29 million in 2017. Overall some 53,000 acres were dedicated to seed production, a decrease of 20,000 acres from 2017. One explanation for the decrease could be efforts for Imperial Valley seed farmers to comply with stricter weed and pesticide laws that impact the export of seeds to foreign countries. Crop value per acre increased to $2,059 per acre (2018) from $1,865 (2017). Alfalfa seed ($68.5 million) and Bermuda seed ($18.2 million) represented the greatest production value.

The seed industry did see a disruption in 2018 that is continuing into 2019 from trade uncertainly with China. The market disruption is having ripple effects on various markets throughout the world. Inventories are reportedly at record levels as distributors seek new markets as world trade works to rebalance.

EXHIBIT C-7 provides a history of apiary production.

The final segment of agriculture production analyzed was that of apiary which includes honey, wax and pollination (bee) production and use. While this industry accounted for about $8.46 million in 2018, a substantial increase of 44.9% over 2017 when total production was $5.84 million of production.

EXHIBIT C-7 TOTAL APIARY (HONEY/WAX/POLLINATION) PRODUCTION (IN MILLIONS OF $) BY YEAR

The core product in this category is pollination which accounts for $7.7 million of production while $694,000 of honey and $35,000 of wax was produced.
D. INCOME AND POVERTY STATISTICS

Imperial County continues to see increases in Median Household Income. Between 2017 and 2018, the Median Household Income rose 3.15% (about $1,366 per year) to $44,779. There are two (2) factors that are driving increases in recent years. First, as the overall nation economies continues to thrive, wages are increasing modestly. Also, as California’s minimum wage increases, workers at the lower end of the income spectrum (which make up a significant portion of the Imperial County workforce) are seeing higher paychecks. It is likely that the region will see 3-4% increases in this category annually for the next few years.

EXHIBIT D-1  MEDIAN HOUSEHOLD INCOME

Source: U.S. Census Bureau / Federal Reserve Economic Data (FRED)

In terms of household income distribution, EXHIBIT D-2 shows a breakdown since 2010. There is noticeable improvement for families making less than $35,000 annually. For example, in 2014, 46.1% of households had an income under $35,000 annually. In 2018, this had dropped to 35.4%. While these families are still struggling, it is promising to see the drop in lower income percentages. On the upper end, in 2014 27.7% of families had a household income of $75,000 or more. In 2018, this had increased to 42.5% of families. Overall, we are seeing a migration of incomes from the lower end (under $35,000 annually) to the middle and upper tiers.

EXHIBIT D-2  HOUSEHOLD INCOME DISTRIBUTION 2010–2018

Source: American Community Survey / Environics Analytics
EXHIBIT D-3 provides recent data on per capita incomes. Median per capita income dropped by about 6.58% or $1,218 between 2017 and 2018. The decrease is likely due to an increase in unemployment in the region over the last year as well as a drop in the overall labor force. Also, many communities are starting to see the impact of reduced federal government assistance (social and food programs).

EXHIBIT D-3  
PER CAPITA MEDIAN INCOME 2005–2018

Sources: American Community Survey / Environics Analytics

EXHIBIT D-4 below is presented for the first time this year in our forecast. There is significant discussion and debate in the United States over Income Inequality but few discuss or present measurements of such. DMG, Inc. presents a ratio calculation form 2010 to 2017 in which the median income for the top 20% of households is divided by the median income of the bottom 20% of households. While the raw number itself likely has little meaning, the trend(s) over time do provide a more statistical understanding. For example, in 2010 the Income Inequality Ratio was 13.94. This has increased to 15.93 over a seven-year period. In fact, the ratio has increased almost every year. This is during a time when California’s minimum wage has been increasing.

EXHIBIT D-4  
INCOME INEQUALITY RATIO

Source: Federal Reserve Economic Data (FRED)
EXHIBIT D-5 presents the percentage of Sub-Prime Borrowers in Imperial County as a percentage of the population. The interest rate that consumers pay is a function of their credit (otherwise described as their history of repayment and inventory of other creditors). The lower someone's credit score, the higher the interest rate. Additionally, the lower the credit score, the more likely it is that a consumer is altogether refused credit. At the height of the Great Recession (2010), some 46.6% of Imperial Valley borrowers had a credit score below 660 (which is essentially the “Mendoza Line” of prime versus sub-prime). At current (2019) this has fallen to 33.2% of borrowers. This means that Imperial Valley residents are rebuilding their credit as a function of time since the Great Recession and greater incomes/ability to repay as well as more recent repayment history.

EXHIBIT D–5  IMPERIAL COUNTY SUB–PRIME BORROWERS

The U.S. Federal definition of poverty is a household income for a family of four less than $25,750 (1/1/19). Pragmatically, this does not include families earning just over this amount (adjusted by family size) are still likely impoverished. EXHIBIT D-6 shows that poverty among “all persons” has leveled at about 1 in 5 persons while poverty among those most vulnerable, children has climbed in the last year to 31% from 28%. This is despite minimum wage increases and is likely due to reductions in various social program assistance from the federal government.

EXHIBIT D-6  PERCENTAGE OF POPULATION (ALL RESIDENTS AND CHILDREN <18) LIVING IN POVERTY
HEALTHCARE AND COVERAGE

The Imperial Valley is seeing an increase in the number of persons that are now covered in either a private or government sponsored health insurance program. EXHIBIT D-7 tracks the percentage of residents in Imperial County without health insurance starting in 2010. In 2010 and 2011, about 21% of the population was without coverage. By 2014, this has been reduced to only 15% as full implementation of the Affordable Care Act (ACA) started to take effect. Since 2015, the percentage of those without health insurance has declined each year to a current low of 7.9%. This means that over 92% of Imperial County residents have health insurance.

EXHIBIT D-7  PERCENTAGE OF RESIDENTS WITHOUT HEALTH INSURANCE

Source: American Community Survey
E. EDUCATIONAL ATTAINMENT AND EARNINGS

Economic opportunity in the United States is tied to workforce education and training. The Imperial Valley has historically had some of the lowest levels of education attainment by adults 25+ in both California and nationwide. This directly impacts economic opportunity. EXHIBIT E-1 provides an understanding of the highest level of education achieved by adults within the region. In total, 29.8% of adults 25+ lack a high school diploma or equivalent. An additional 26% only have a high school diploma (or equivalent). Only about 14.8% of adults 25 and over have a bachelor’s degree or better.

The trend over the past four years has been that Imperial County residents are slowly becoming more educated. In fact, those with a 9th grade education or less has reduced by 20% in just three (3) years. The percentage with some high school, but no diploma has held steady while those completing high school (or equivalent) has increased from 22% to 26%.

As the United States works to complete in a more global economy where technology has been introduced and plays a role in almost every industry sector, the lack of education directly impacts the employability of over one-half of adults within the region. The region is slowly making strides but must continue to be competitive long-term.

EXHIBIT E-1   EDUCATIONAL ATTAINMENT ADULTS 25+ (2016 – 2019)

Source: Environics Analytics
Education impacts earnings. EXHIBIT E-2 shows earnings of various levels of adults based on education for selected years from 2008-2018. While almost all persons saw their income impacted (in average) by the economic downturn, it remains that persons with a high school diploma makes about $12,000 a year more than someone without. College graduates (on average) make $20,000 more a year than someone with only a high school diploma and three-times as much as someone that dropped out of high school. This single chart, more than any other, points to the direct impact educational achievement has upon the ability for a person to support themselves and their family.

EXHIBIT E-2  MEDIAN EARNINGS OF ADULTS 25+ BY EDUCATIONAL ATTAINMENT

Sources: U.S. Census Bureau / Factfinder
F. IMPERIAL COUNTY HOUSING MARKET

DMG, Inc. has long believed that housing has the potential to be an economic driver for a regional economy, especially one that has an abundance of semi and full-skilled construction workers. The coastal communities of Southern California (San Diego, Orange, Los Angeles and Ventura) continue to experience a severe housing shortage. The shortage is pushing those on the lower end of the income spectrum to higher densities and even homelessness. The homeless problem in many coastal communities is now manifesting itself into a public health crisis.

Imperial County continues to have a stable housing market. Overall occupancy of rental housing is hovering in the 97-98% range (this is considered full occupancy for rental housing). Property managers report that less than 10% of renters pay late, they do pay and that evictions are almost non-existent, and have generally been limited to “life-changing” events, such as divorce, death and sudden job loss).

Apartment rents vary based on size and condition from $600 (lower end 2 bedroom / 2-bathroom unit) to $1,150 for a newer upper end 3-bedroom / 2-bathroom unit) with an estimated average of about $750-$800. Rental housing (single family) for the same 3-bedroom / 2-bathroom home ranges from $1,000 to $1,400 per month depending on location, age and condition. While occupancy continues to be at its highest point in memory for 30+ year, rents have not (yet) gone up as wage/income pressures tend to dictate the rents people can pay more than product supply. Property managers state they are hopeful to increase rents 3%-5% in the next year to keep up with operational cost increases.

Overall, property managers, real estate developers and brokers state that the housing market in Imperial County is “stable” and that for some form of hyper-growth to take hold, it is predicated upon the development of middle-class job opportunities to drive the economy.

Imperial County provides an opportunity for a naturally affordable housing market. Below is scale of housing affordability based on median home price divided by the median household income. EXHIBIT F-1 shows that it takes about 5 times the median household income to purchase the median home, the same as it has been the last four (4) years.

Sources: CoreLogic/Environics Analytics/DMG Economics
Imperial County continues to have the most affordable housing market in Southern California. Using a comparative housing affordability scale (median home price divided by median household income), the median home in Imperial County sells for about five (5) times the median household income. San Bernardino and Riverside Counties offer comparatively affordable home with the scale between 5.5 to 6.0. As a nation, the median home costs about 3.79 times the median income. Coastal communities and California have affordable indexes ranging from 6.79 (Ventura County) to 9.11 (Los Angeles County). EXHIBIT F-2 provides a full comparison by County.

**EXHIBIT F-2 HOUSING AFFORDABILITY SCALE BY COUNTY (MEDIAN HOME PRICE / MEDIAN HOUSEHOLD INCOME)**

<table>
<thead>
<tr>
<th>County</th>
<th>Multiplier of HH Income / Median Home Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>3.79</td>
</tr>
<tr>
<td>Imperial County</td>
<td>4.76</td>
</tr>
<tr>
<td>San Bernardino</td>
<td>5.52</td>
</tr>
<tr>
<td>Riverside</td>
<td>5.96</td>
</tr>
<tr>
<td>Ventura</td>
<td>6.79</td>
</tr>
<tr>
<td>California</td>
<td>6.83</td>
</tr>
<tr>
<td>San Diego</td>
<td>7.46</td>
</tr>
<tr>
<td>Orange</td>
<td>7.94</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>9.11</td>
</tr>
</tbody>
</table>

Sources: CoreLogic/Environics Analytics/DMG Economics

Total home sales (new and existing) continue to be stable. For the four-year period from 2014-2017, the Imperial Valley has averaged between 1,400 and 1,500 total home sales per annum. 2019 is expected to be about 6% higher than 2018 with an estimated 1,480 transactions (based on transaction through August 2018). EXHIBIT F-3 shows the stabilization after the peak of the housing boom and corresponding sell-off by financial institutions of foreclosed inventory.

**EXHIBIT F-3 IMPERIAL COUNTY, CA TOTAL HOME SALES BY YEAR (NEW AND EXISTING)**

Source: CoreLogic
EXHIBIT F-4 shows the number of new home sales over a ten-year period. Note that the region saw about 1,800 homes sold in 2006. Scaling this figure to that of Los Angeles County for comparison purposes, it is tantamount to 100,000 new homes being built and sold during the same time period. New home sales had stabilized in the 160-200 homes per year range from the period 2010-2016. “Public” builders have largely left the region leaving home construction to local/regional based builders. The builders that have continued in recent years have focused on the “build to order” market which is defined as semi-custom or production-custom homes whereas the buyer is often under contract before the home is built. This lessens the risk to the builder (and their lender) while providing the buyer additional options for materials and interior customization. In 2018, only 101 new homes were built, (mostly in the cities of Brawley and Imperial). For 2019, new home construction is expected to reach about 150, a significant increase from the last two years.

EXHIBIT F-5 provides a representation of median home prices. Home prices peaked in 2006 at $275,000. Prices slid during the great recession bottoming out in 2010 and 2011 at $125,000. Prices have steadily risen since with the projected 2019 median home price of $235,000 (this is up from $219,000 one year ago and $215,000 two (2) years ago. The rate of increase bodes well for the marketplace overall as to not generate a bubble, as may be forming in coastal markets. The median price for a home is now about $166 per square foot (EXHIBIT F-6). EXHIBIT F-5 provides an understanding of the average housing unit sold in terms of square footage. Overall, the average housing unit sold in Imperial County is approximately 1,360 square feet in size (EXHIBIT F-7).
EXHIBIT F-5  MEDIAN HOME (RESIDENTIAL REAL ESTATE) PRICES (2004 – 2019e)

Source: CoreLogic

EXHIBIT F-6  RESIDENTIAL (EXISTING DETACHED) SALES PRICE PER SQUARE FOOT (2007 – 2019e)

Source: CoreLogic

EXHIBIT F-7  AVERAGE HOME/UNIT (EXISTING DETACHED) SIZE FROM SALES TRANSACTIONS (2007 – 2019e)

Source: CoreLogic
EXHIBITS F-8, F-9 and F-10 provide an understanding of how absentee buyers are interacting in the Imperial County market. To begin, an absentee buyer is defined as a buyer that has their tax bills sent to an address other than the property purchased. Obviously this can be for a number of reasons, outside of using the property as a rental. That said, a constant definition will serve to provide some information that can be used to guide those working to understand the local economy.

To begin, about 13.6% of all residential transactions have been sold to absentee buyers through August, 2019. Overall the percentage has been fairly constant, though absentee buyers accounted for 17%-19% in the years following the Great Recession. The price paid by absentee buyers at current is about $142,000 and has been increasing with the general market over the past decade.

**EXHIBIT F-8  PERCENTAGE OF HOME SALE TRANSACTIONS TO ABSENTEE BUYER (2007 – 2019e)**

![Graph showing percentage of home sale transactions to absentee buyer from 2007 to 2019e]

Source: CoreLogic

**EXHIBIT F-9  MEDIAN PRICE PAID BY ABSENTEE BUYER (2007 – 2019e)**

![Graph showing median price paid by absentee buyer from 2007 to 2019e]

Source: CoreLogic
EXHIBIT F-10 provides a telling story that absentee buyers on average pay significantly less for a housing unit than the overall median price. In fact, over an eight (8) year period from 2012 to 2019, absentee buyers pay between 55% and 60% of the overall median home price. This could be attributed (in part) to absentee buyers generally avoiding new construction homes (due to price) and generally are focused on smaller units as the overall rental price of a 2 or 3 bedroom unit isn’t impacted by the overall square footage whereas a owner-occupied transaction is more sensitive to floor plans and overall size.

EXHIBIT F-10  
**ABSENTEE BUYER PURCHASE PRICE AS % OF MEDIAN HOME PRICE (2007 – 2019e)**

Beyond tracking purchase transactions, the overall health of a housing market can be determined through looking at patterns of foreclosures, REO (real estate owned sales by banks and other financial institutions and short-sales in which lenders agree to take an amount less than the loan amount as a means to recover a portion/most of their funds without actually foreclosing on a home.

EXHIBIT F-11 further shows the decline in foreclosed homes from 2009 to current (2019). The region went from a high of 1,444 homes foreclosed in 2009 to 76 in 2017 a decrease of over 90%. In 2018, foreclosures increased slightly to 88 while 2019 it is projected that 98 total homes will be foreclosed on county-wide.

EXHIBIT F-11  
**TOTAL FORECLOSURES (2009–2019e)**
Real Estate Owned (REO) sales (also known as “Bank-Owned Sales”) have decreased substantially since the Great Recession. EXHIBIT F-12 below shows the last three years (2015-2018) resulted in less than 100 REO’s each year. It is projected that there will only be about 57 REO sales in 2019 in the entire County of Imperial.

EXHIBIT F-12  IMPERIAL COUNTY REAL ESTATE OWNED (BANK OWNED) SALES/TRANSACTIONS (2007 – 2019e)

A short sale is a means for which a property owner can sell a property for less than what they owe with the permission and cooperation of the lender. This arrangement often benefits buyers, sellers and lenders to dispose of a distressed asset. Sellers can sell their home without the burden of a full foreclosure. Buyers often purchase a property at a discount and lenders will save both time and money in this process as they will not have to invoke an expensive and burdensome legal process. A stabilized housing market also means that the number of short-sales has gone from over 300 (at height of the “Great Recession” to about 11 (projected) for full-year 2019. EXHIBIT F-13 provides a year by year comparison.

EXHIBIT F-13  IMPERIAL COUNTY RESIDENTIAL SHORT-SALE TRANSACTIONS (2007 – 2019e)
ASSESSED VALUATION

Imperial County experienced a boom in housing and commercial construction in the early-mid 2000s. This was reflected in assessed valuation that grew by over $5 billion in just 5 years. As the recession took hold, the County did see a correction in assessed value, but the overall change was minimal and represented only a 5% or so decrease.

For the current tax year (2019-20), total assessed valuation in Imperial County is $13.43 billion. This is an increase from 2018-19 when assessed valuation was $12.87 billion, year over year increase of 4.35%. Overall, the region has seen assessed valuation increase from about $6.0 billion in 2004-05 to what it is today. The factors behind the increase continue to be three-fold. First, home values in general are increasing so Proposition 8 appeals and assessments are both declining and reversing. Second, there is some new construction (both residential and commercial) that is adding to the tax rolls. Finally, renewable energy projects and associated infrastructure are generating increases in overall valuation.²

EXHIBIT F-14 below shows historic trends regarding assessed valuation in Imperial County.

EXHIBIT F-14  TOTAL ASSESSED PROPERTY VALUATION (FY 03-04 – FY 19-20)

Source: County of Imperial Assessor

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² Economist Note: Wind and geothermal energy production equipment is subject to property tax in its entirety. Solar does have a State Revenue & Taxation Code Section 73 exemption for the panels and posts, but ancillary improvements are subject to property tax (including transmission lines, substations, fencing, and interior roads).
G. CONSUMER CONFIDENCE (RETAIL SALES & USE TAX & SPENDING)

Imperial County continues to see increases in taxable sales. Taxable sales are generally based on consumer spending (cars, gasoline, restaurant food, clothing and other consumer goods). For the latest fiscal year (FY 18-19), taxable sales reached a record high of $2.59 billion, a decrease of about 9.2% from FY 17-18. Taxable sales generate revenue for local governments (County of Imperial and the incorporated cities), and while most taxable sales are as a result of consumer spending, the County of Imperial has been a beneficiary of renewable energy investment. Renewable energy projects approved by the County are required to designate the project site as the point of sale for sales and use tax purposes. This means the energy generation equipment (that can include such items as solar panels, wind turbines and sub-station equipment) creates one-time tax revenue to the County. The result is that there can be variations in taxable sales depending on whether there are active projects under construction. EXHIBIT G-1 shows historic taxable sales from FY 2006-07 through FY 2018-19.

EXHIBIT G-1  TAXABLE SALES IN IMPERIAL COUNTY (FY 06-07 TO FY 18-19)

Source: California Department of Tax and Fee Administration
H. EDUCATION TEST SCORES

In 2015, DMG Economics introduced a new section in the annual economic forecast focused on academic achievement. California Assessment of Student Performance and Progress System (CAASPP) began use in California in 2015, therefore there are now three (3) years of records available. This section presents a cross-section of grades (3rd, 7th, and 11th) and their achievement in English and Math. Test achievement is measured in students that “Standard Exceeded”, “Standard Met”, “Standard Nearly Met” and “Standard Not Met”.

Overall, Imperial County students are slowly improving, but the achievement still lags against the average across the State of California. Over the last five (5) years, small gains have been made in most areas, though there is marked slippage in scores among 11th grade math students. EXHIBITS H-1 - H-6 present the achievement results.

Third grade students have made significant strides over the past five years. For English in 2015, only 26% of students met or exceeded the standard while 45% were in the bottom category “Standard Not Met.” In 2019, 41% of students had met or exceeded the standard while students not meeting the standard dropped to 34%. Math saw similar improvements. In 2015, only 30% of students met or exceeded the standard. By 2019, 43% of students had achieved the same. The percentage of students at the bottom of the spectrum dropped from 39% to 31% during the same five-year period.


Source: California Department of Education


Source: California Department of Education
Seventh graders have also made significant progress over the past five (5) years in terms of student test scores. In English, the percentage of students that have met or exceeded the standard increased from 34% to 47% while students categorized as "Standard Not Met" went from 38% down to 28%. Math scores saw similar improvement. Students meeting or exceeding standard went from 22% to 30% while students not meeting the standard reduced to 40% from 44%.

EXHIBIT H-3 CAASPP 7TH GRADE ACHIEVEMENT ENGLISH (2015-2019)

Source: California Department of Education

Eleventh graders across Imperial County are also testing with greater levels of achievement than they did five (5) years ago. In English, students meeting or exceeding the standard increased from 40% to 57%. Students at the other end of the achievement spectrum went from 31% in 2015 to 20% in 2019. Math scores have also improved but not as much. Only 26% of students meet or exceed the standard, up from 19% in 2015. Unfortunately, 50% of students are not meeting the standard, though that is down from 55% just five (5) years ago.

EXHIBIT H-4 CAASPP 7TH GRADE ACHIEVEMENT MATH (2015-2019)

Source: California Department of Education

Source: California Department of Education

EXHIBIT H-6  CAASPP 11TH GRADE ACHIEVEMENT MATH (2015–2019)

Source: California Department of Education
I. ECONOMIC OUTLOOK FOR 2020

Overall, the economy of the Imperial Valley continues to be stable. That said, there are issues currently facing the agriculture industry, which accounts for over 35% of the region’s Gross Domestic Product. While there have been and continue to be potential economic investments that will generate new jobs and build the local tax base, some are facing regulatory hurdles. For example, the region hosts an immigration detention facility that was built to be state-of-the-art about five years ago. The facility was designed to double in size. As operators were working toward this potential, the State of California recently passed a new law that forbids privately operated jails, prisons and detention facilities in California. While the applicability of this law to a federal facility is a question that will likely go before the federal courts, the project developer appears to cancelled their plans to expand in the Imperial Valley, costing the region 300+ new jobs that pay an average of $27.00 per hour. Below is a synopsis of projections in various economic categories/industries for 2020 and beyond.

FUTURE OPPORTUNITIES:

- Trade Policies that force or incentivize additional manufacturing/assembly/distribution back to the United States (United States-Mexico-Canada Trade Agreement aka USMCA) as well as the potential for additional agriculture trade.
- Additional development of renewable energy projects from SB 100 (100% Renewable Portfolio Standard by 2045) namely additional solar generation facilities, geothermal production (including the mining of rare minerals) and transmission/distribution lines from the region to either San Diego or Los Angeles (through the Coachella Valley).
- Potential for additional logistic/distribution facilities along the United State/Mexico Border to support assembly and manufacturing in Mexicali, Baja California Mexico.

Agriculture will continue to be the largest economic sector. Simply stated, the Imperial Valley literally feeds California and produces crops for export in several nations around the world. The region has developed over 3,000 miles of canals that distribute water to over 537,000 acres (839 square miles) of active production land. The water crisis appears of 2012-2016 will quickly return unless California receives the type of rainfall it received in the winter of 2018-19. The State of California continues to fail at the generation of water storage infrastructure, which is putting the entire agriculture industry across the State on a course for economic disaster. Headwinds facing the industry continue to be California regulatory policies that do not recognize the need for flexibility among farm labor (especially for irrigation specialists), increasing minimum wage above that of neighboring states (and nations) and a general cost of business that may prevent the ultimate success of agriculture processing. Finally, there is continues to be trade uncertainty relative to China, historically a large trading partner with the United State relative to agriculture. The previous mentioned USMCA still has not been passed by Congress. Additionally, Saudi Arabia continues to invest in their own production capacity in Southern California (namely the Palo Verde Valley which includes Blythe just north of Imperial County). These operations appear to have little interest in communities for which they are located and are just dedicated operations.

Housing in the Imperial Valley is generally affordable in comparison to the balance of Southern California with the median home selling for about $235,000. New home construction has been slow in recent years and is expected to continue at a rate of about 150-200 homes a year for the time being. That said, home builders are reporting that they are currently entitling new land and installing infrastructure to increase their ability to supply/deliver production homes in the marketplace. Additionally, there are still over 30,000 units of fully entitled housing units ready to build when the market forces dictate such. These units are throughout the entire Imperial Valley region including Brawley, Imperial, El Centro, Heber and Calexico (along with unincorporated portions of the County of Imperial).

Renewable Energy Development has received over $7.3 billion of new economic investment in the region in the past seven years. Much of this has been a result of renewable energy development (solar, wind, geothermal and biofuels). At current, the region has about $6 billion of projects that are “under development” which is defined as entitled. These projects will propel the regional economy for the next few years. Couple this with the Renewable Portfolio Standard (RPS) that is currently being driven by 50% of new economic investment in the region in the past ten (10) years. Additionally, there are multiple companies working on developments that would result in large-scale geothermal production and rare mineral extraction (lithium). Lithium is used in the manufacturing of energy storage devices (namely batteries). It is possible that a pilot project for one of these projects will be constructed in 2020. Finally, research and investments continue to be made in regards to algae production (farming) as an alternative fuel source.

Retail Sales continue to be strong and stable with $2.59 billion in FY 2018-19. A growing economy being driven by increases in California’s minimum wage is putting more money in the
pockets of residents which is resulting in increased spending. Couple this with 1.1 million+ residents in Greater Mexicali, Mexico that shop in the Imperial Valley and retail spending is expected to rise by 3% to 5% in the coming year, though actual sales may be impacted on the number of renewable energy projects that are actually constructed in 2020 as the County of Imperial receives one-time taxes based on material purchases for these projects.

THREATS TO THE REGIONAL ECONOMY:

- Agriculture prices (crop and livestock) as a result of general market pricing and strength of the US Dollar (note that the U.S. Dollar lost significant value against the EURO in late 2018 but has since recovered and is again trading at stable levels).
- Federal Government policies regarding immigration and trade could dramatically impact the Imperial Valley economy, namely accessibility to the border between the United States and Mexico, implementation of the USMCA and the trade war with China.
- Government regulation specifically such items as mobile and stable source air quality that may impede the growth and sustainability of the agriculture industry.
- Availability and stabilization of supply of water supply.
- The impact an exposed Playa at the Salton Sea would have on Air Quality and in destroying farmland (particularly in the northern portions of the County).
- Competing regions for agriculture production that have differing labor laws relative to minimum wage and overtime.
J. REFERENCES

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- State of California Employment Development Department
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- Unnamed Agriculture Professionals (Primary Research) (2 Total)*
- Unnamed Home Building Professional (Primary Research) (1)*
- Unnamed Labor Contracting Professionals (Primary Research) (2)*
- U. Unnamed Multi-Family Rental Housing Professional (Primary Research) (2)*
- V. Unnamed Project Manager (Renewable Energy Development) (1)*

*Often business owners/operators will provide information for primary research under agreement that their names are not specifically mentioned. Interview information is available for SCAG audit/verification purposes only.