

Financial Advisory  
Gaming & Hospitality  
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Regional & Urban Economics

# POLICY BRIEF NO. 2: SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

PREPARED FOR:

*Nevada Governor's Office of*

**ECONOMIC DEVELOPMENT**

*Empowering Success*

PREPARED BY:



May 2023

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May 23, 2023

Mr. Kris Sanchez  
Deputy Director  
Nevada Governor's Office of Economic Development  
555 E. Washington Avenue, Suite 5400  
Las Vegas, NV 89101

Re: *Southern Nevada Employment Land Analysis ("the Study")*

Dear Mr. Sanchez:

RCG Economics LLC ("RCG") is pleased to submit the above referenced Study to GOED ("the Client"), providing the regional economic and real estate advisory services and analyses specified in our scope of work.

RCG developed a high-level analysis and estimate of the current supply of developable employment (i.e., industrial and commercial) land in Clark County ("the Study Area"), including exurban areas in the Eldorado Valley and Jean, Nevada. This land is needed to support the continued economic development and resiliency of the Study Area and surrounding region. The worsening land shortage in the Study Area poses significant challenges to the economic competitiveness and health of Southern Nevada and the quality of life of its residents.

Finally, the Study was prepared under the assumptions listed in the attachment to this letter.

If you have any questions, please do not hesitate to contact us at your convenience by phone at 702-967-3188 ext. 101 or by email.

Regards,



RCG Economics LLC  
Attachment



REGIONAL & URBAN ECONOMICS  
PUBLIC POLICY RESEARCH  
GAMING & HOSPITALITY  
REAL ESTATE ADVISORY  
FINANCIAL ADVISORY

**Attachment**  
**Standard Assumptions & Limiting Conditions**

1. RCG prepared the Study deliverables from third-party information collected by RCG, as well as our internal economic, land and demographic models, databases and sources.
2. The results of RCG's analyses apply only to the effective date of the Study deliverables. The success of the Clients' plans for the region will be affected by many related and unrelated economic and real estate market conditions within a local, regional, national and/or world context. We assume no liability for an unforeseen change in the local, regional or national economies. Accordingly, we have no responsibility to update the Study deliverables for events and circumstances occurring after the date of our Study deliverables.
3. Our deliverables are based on historical and current regional economic and developable land benchmark information. Thus, variations in the future could be material and have an impact on the Study conclusions. Even if our Study's hypothetical assumptions were to occur, there will usually be differences between the estimated and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material. These could include major changes in economic and market conditions; and/or terms or availability of financing altogether; and/or major revisions in current state and/or federal tax or regulatory laws.
4. If our Study deliverables are reproduced by the Client, they must be reproduced in their entirety.
5. RCG makes no representation or warranty as to the accuracy or completeness of the third-party information contained in the Study deliverables and shall have no liability for any representations (expressed or implied) contained in, or for any omissions from, our materials.
6. The working papers for this consulting assignment will be retained in RCG's files and will be made available for your reference. We will be available to support the analyses, as required.
7. The land absorption estimates in our Study may not be used in conjunction with any other report(s). The conclusions stated in our Study will be based on the existing and hypothetical land use plans developed by the public, and may not be separated into parts. The analysis has been prepared solely for the purpose, function and parties so identified in this assignment letter.
8. It has been assumed that the identified vacant land parcels RCG analyzed have no encroachments, easements or trespasses, unless noted within the Study. RCG has not made its own survey of the selected parcels' acreages, and no responsibility is assumed in connection with any matter that may be disclosed by a proper survey. The parcel data in our Report comes from publicly available data that RCG assumes to be accurate. If a subsequent survey should reflect differing land areas and/or frontages, RCG reserves the right to change the final version of the Study, at the expense of the Clients.
9. All maps, plats, site plans or photographs that are incorporated into the Study are for illustrative purposes only, to assist the reader in visualizing our research, but are not guaranteed to be exact.
10. The ultimate development of the land parcels analyzed in our Study will be assumed to be implemented by competent management and that their ownership will be in responsible hands. The quality of management can have a direct effect on feasibility of development projects. The Study assumes both responsible ownership and competent management unless noted otherwise. Any variance from this assumption could have a significant effect on the developability of the parcels.

11. The Study assumes that there are no hidden or unapparent conditions relating to the analyzed parcels' soil or subsoil that render them more or less developable. No responsibility is assumed for such conditions, or for engineering that might be required to discover such factors.
12. The existence of potentially hazardous material to the parcels identified in the Study, such as the presence of asbestos, lead paint, toxic waste, underground tanks and/or any other prohibited material or chemical, which may or may not be present on or in the selected parcel acreages, has not been evaluated by RCG. The existence of these potentially hazardous materials may have a significant effect on the development to the parcels evaluated. The Client or other relevant third parties are urged to retain an expert in this field, if desired. The Study assumes that the parcels' acreages are "clean" and free of any of these adverse conditions unless RCG is notified to the contrary in writing.
13. Unless otherwise stated in our Study deliverables, no effort has been made to determine the possible effect, if any, of future Federal, State or local legislation, including any environmental or ecological matters or interpretations thereof.
14. RCG has not performed an audit, review or examination or any other attest function (as defined by the AICPA) regarding any of the third-party parcel and economic benchmarks or demographic information used or included in the Study deliverables. Therefore, RCG does not express any opinion or any other form of assurance with regard to the same, in the context of our Study deliverables.

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# SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

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# SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

## I. INTRODUCTION AND SUMMARY

The Nevada Governor's Office of Economic Development ("GOED") retained RCG Economics ("RCG") to prepare an "employment land" analysis and an evaluation of the economic impacts associated with a shortage of such vacant land in Southern Nevada ("Clark County"). RCG also assessed how these constraints could negatively affect the region's future economic health and resilience. Our major findings include:

- Southern Nevada will face a shortage of the most desirable employment land (Tier 1 and 2, defined in section A.2 Ranking Developable Parcels, page 14) to meet its economic development and resiliency needs between 2023 and 2030, barring adequate and sustained steps to expand the inventory of such land. This is especially true if adequate federal land releases do not occur.
- There are roughly 16,400 gross acres of potentially developable employment land in 142 parcels (Tiers 1-4, see Table VI-1, page 21) that are 20+ acres in size and have a slope of seven percent or less in Clark County.
- Approximately 5,000 of these acres are ranked herein as Tier 1 and Tier 2, including federally owned parcels that have not yet been released by the BLM.
- Per RCG's "Mid" job growth scenario (see Table VI-4), Southern Nevada is forecasted to need approximately 5,500 acres of developable employment land through 2030, not including land needed by the region's Accommodation and Food Services sector. Therefore, based on the 5,000 acres just noted, there is a possible deficit of 500 acres scenario. Depending on the job forecast scenario (Low, Mid, High), the range of acres needed is between 3,100 (Low) and High (8,000).
- Failing to ensure an adequate supply of employment land could lead to a slowing in gross regional product growth of between \$9.3 and \$15.5 billion per year (See page 29). This would be accompanied by a slowing in job growth of between 82,000 and 137,000 jobs per year. This slowing would represent reduced earnings (wages, salaries and proprietors' income) of between \$5.3 and \$8.8 billion per year. To be conservative RCG used three and five percent cost disadvantage scenarios to illustrate potential reductions in economic growth because of a future employment-land shortage.

*Note: This report was developed by RCG with funding from the Governor's Office of Economic Development through the U.S. Economic Development Administration's American Rescue Plan Act Statewide Planning Grant Program.*

## II. STUDY PURPOSE AND NEED

This “policy brief” (“the Study”) presents the major findings and methodologies employed in RCG Economics’ (“RCG”) employment lands analysis. Commissioned by the Governor’s Office of Economic Development, the Study’s main purpose is to analyze the issue of land scarcity in Clark County (or the “Las Vegas MSA”/“Southern Nevada”), especially in the Las Vegas Valley and a select group of “exurban” parcels and assemblages. This policy brief is also designed to contrast how land scarcity has evolved since the previous version of this report published in 2020 on behalf of NAIOP-Southern Nevada (“RCG’s 2020 study”). The Study is also intended to ascertain whether there are short and long-term constraints on developable land in the region that could negatively affect its economic resilience. The Study is based on two main analyses:

1. An estimate of the supply of developable “employment land” primarily in the Las Vegas Valley as of February of 2023 of a certain size and slope; and
2. Two scenarios that estimate the potential long-term economic costs of developable land constraints to the Southern Nevada economy.

As indicated above, the Study is an update of RCG’s 2020 *“Southern Nevada Industrial Land Analysis: Inventory & Implications for Economic Growth & Economic Development,”* which was a fusion of RCG’s 2015 “Southern Nevada Employment Land Analysis” completed for the Las Vegas Global Economic Alliance (“LVGEA”) and RCG’s 2016 *“Strategic Analysis of Southern Nevada’s Economy: Potential Land Constraints on Economic Growth and Development.”* The latter study was a review of the Bureau of Land Management’s (“BLM”) *“Draft Resource Management Plan Management/Environmental Impact Statement.”*

The Study is intended to support the goals of a variety of stakeholders in Southern Nevada, such as GOED. LVGEA. NAIOP-Southern Nevada, Clark County political jurisdictions, the business community at-large, including a number of trade organizations. These stakeholders have an interest in the availability of developable lands to provide necessary services. However, developable and appropriate vacant land resources required to support the Southern Nevada economy over the long-term are limited, particularly for industrial (e.g., warehouse distribution and manufacturing) uses. Additionally, pending federal land policies and legislation could negatively affect the health and vitality of Southern Nevada’s residents and businesses if their economic impacts are not fully understood and appreciated. RCG has therefore conducted a comprehensive analysis of the region’s available industrial land supply and the corresponding potential economic impacts to the region should future land supply constraints limit its economic and community development potential.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

A number of terms are used herein that are important for the reader to be familiar with. They are included in the Glossary of Terms on the following pages.

### III. GLOSSARY OF TERMS

**Acres over seven percent slope:** The number of acres of a parcel in which the average grade is over seven percent, as calculated by the Southern Nevada Water Authority.

**Assessed value:** “The property value determined by the County Assessor and used by the Treasurer to calculate a tax amount. The method of determining the assessed value is specified in Nevada Tax Law (NRS 361) and by regulations from the Nevada Department of Taxation. The assessed value is stored at a rate of 35% of the taxable value of the property.” (*Clark County Assessor*)

**Average slope:** The average grade of a parcel, as a percent, as calculated by the Southern Nevada Water Authority.

**Base-Case:** A scenario that assumes that there are no land constraints affecting Clark County’s continued economic growth.

**Commercial:** In the context of the Study, “commercial” lands, projects, etc. refer to office and retail.

**Community:** The jurisdiction, municipality or township in which a parcel is located. These place names are based on geographic definitions provided by Clark County Comprehensive Planning.

**Cost Disadvantage:** The increased cost burdens to businesses and their suppliers modeled as a decline in contributions to economic output/spending. In the context of the Study, these disadvantages are estimated for industrial land-using businesses only. The cost disadvantages herein are relative to the unconstrained “Base-Case” in which the Clark County economy is not affected by land constraints.

**Disposal Boundary (“DB”):** The boundary within which the Bureau of Land Management may sell off lands under the Southern Nevada Public Land Management Act of 1998.

**Earnings:** Also “labor income.” “The sum of Employee Compensation (wages and benefits) and Proprietor Income.” (*IMPLAN*)

**Employment land:** Employment land is defined herein as parcels that are most suited for private sector commercial and industrial development.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

**Employment/Jobs:** A job in IMPLAN equals the annual average of monthly jobs in that industry (this is the same definition used by the BLS and BEA). Jobs in IMPLAN are not equal to Full-Time Equivalents (FTE). (IMPLAN).

**Geographic Information Systems ("GIS"):** "A geographic information system is a framework for gathering, managing, and analyzing data. Rooted in the science of geography, GIS integrates many types of data. It analyzes spatial location and organizes layers of information into visualizations using maps and 3D scenes." (Environmental Systems Research Institute-ESRI)

**Gross Domestic Product:** Gross Domestic Product ("GDP") is "a comprehensive measure of U.S. economic activity. GDP is the value of the goods and services produced in the United States. The growth rate of GDP is the most popular indicator of the nation's overall economic health." (Bureau of Economic Analysis) Gross product, however, can be applied as measure of economic activity to any geographic area. At the state level, it is often referred to as "Gross State Product," or GSP.

**IMPLAN:** IMPLAN (Impact Analysis for PLANning) is a widely accepted economic input-output model. The IMPLAN model has been in use since 1979. The model accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the U.S. Bureau of Economic Analysis.

**Las Vegas Valley:** The urban portion of Clark County. Generally, lands within the DB.

**NAIOP-Southern Nevada:** The Southern Nevada chapter of NAIOP, one of the largest commercial real estate organizations in North America.

**Ownership:** The party that owns a parcel according to the Clark County Assessor.

**Output/Gross Output:** "Principally, a measure of an industry's sales or receipts. These statistics capture an industry's sales to consumers and other final users (found in GDP), as well as sales to other industries (intermediate inputs not counted in GDP). They reflect the full value of the supply chain by including the business-to-business spending necessary to produce goods and services and deliver them to final consumers." (Bureau of Economic Analysis)

**Parcel:** A legal subdivision of real property. "The Assessor's Parcel Number ("APN") is a unique number assigned by the Assessor to each parcel of land in Clark County." (Clark County Assessor)

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**Scenarios:** Three scenarios were discussed in the Study relative to cost “disadvantages” to the Clark County economy. The Base-Case that assumes no land constraints and unrestricted economic growth, a three percent cost disadvantage to firms and a five percent cost disadvantage to firms.

**Southern Nevada Public Land Management Act of 1998 (“SNPLMA”):** “An act to provide for the orderly disposal of certain Federal lands in Clark County, Nevada, and to provide for the acquisition of environmentally sensitive lands in the State of Nevada.” (*Public Law 105-263*)

**Southern Nevada Water Authority (“SNWA”):** “A cooperative agency formed in 1991 to address Southern Nevada's unique water needs on a regional basis.” (SNWA)

**Study Area:** Clark County (a.k.a. the Las Vegas MSA). However, relative to the parcels that were ranked, there were several filters applied such that only a group of parcels in and near the Las Vegas Valley remained in the final data set and findings.

**Study Period:** This period refers to the forecast horizon for the Base-Case and the three and five percent cost disadvantage scenarios, 2023 – 2030.

**Working group:** An advisory group of commercial real estate industry experts set up by NAIOP-Southern Nevada to advise RCG on the Study.

**Zoning:** “Zoning refers to municipal or local laws or regulations that dictate how real property can and cannot be used in certain geographic areas.” (*Investopedia*)

### IV. RECOMMENDATIONS & MAJOR FINDINGS

As a result of its research data collection and analysis, RCG developed the following major report, conclusions, findings and recommendations:

- Southern Nevada developers will likely begin to face challenges in finding desirable parcels to accommodate employment-oriented projects before 2030 if nothing is done to expand regional access to lands, or sooner if the BLM fails to release lands as needed.
- Including parcels in the Eldorado Valley Annexation and a collection of parcels undergoing development in Jean, NV, there are roughly 16,400 gross acres of developable employment land in 20+ acre parcels remaining in Clark County. This represents a decrease of 2,686 acres relative to 2020.
- The region is projected to require about 5,500 acres of developable employment land to meet the needs of the expected economic and job growth by 2030, not including growth in the Accommodation and Food Service sector.
- Based on the estimated 5,033 acres of more desirable Tier 1 and 2 lands available, primarily in the Las Vegas Valley, there would be a deficit of 470 acres between land demand and availability.
- Failing to ensure an adequate supply of developable employment land in the region could lead to a \$15 billion reduction in gross regional product growth between 2023 and 2030 versus the status quo/base case. This would be associated with a reduction in job growth of approximately 137,000 jobs (not including Accommodation and Food Service jobs) versus the current base case growth in employment.

### V. STATEMENT OF METHODOLOGY/KEY ASSUMPTIONS

**T**his section describes in detail RCG's methodology and key assumptions used for the Study's three analytical sections. Specifically, the three sections are titled:

- Employment Land Inventory
- Land Supply & Economic Development
- Economic Costs of Land Constraints

#### ***A. Employment Land Inventory***

The purpose of the employment land analysis is to estimate the availability of developable land in Southern Nevada, largely in the Las Vegas Valley and select exurban acreages, through 2030 and to rank the parcels according to various factors. Vacant land status is a necessary but insufficient condition to ascertain developability which is instead a function of, for example, topography, zoning and geography. With the goal of identifying vacant, developable land, our methodological approach is two-pronged. First, vacant parcels are filtered on the basis of a suite of characteristics (e.g., parcel size, shape, zoning, topography/slope, ownership and geographic region) deemed relevant for commercial and industrial development. We describe this component of our methodology in subsection A.1 below. After isolating the set of vacant, developable parcels, we rank parcels based on the relative importance of the aforementioned characteristics in subsection A.2. Parcels with higher (lower) rankings are more (less) likely to be developed in the following years. We can thus use the rankings derived from our analysis to draw inferences regarding which parcels and the amount of parcel acreage in the Study Area are most likely to transition to non-vacant status in the future.

#### ***A.1 Parcel Filtering: Identification of Vacant Parcels Suitable for Development***

Our formal empirical analysis begins with geo-spatial data describing parcel boundaries in Clark County, NV. To the data RCG applied a series of filters to produce a list of parcels best suited to accommodate commercial and industrial development. Due to data limitations and complexities, the resultant list of vacant, developable parcels is not necessarily a complete list of every potentially developable parcel in the region, but it should contain nearly all qualifying employment land parcels.

**(Filter – 1: Developed Parcels)** RCG first removed all parcels with existing structures, leaving only undeveloped parcels.

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**(Filter – 2: Parcel Size)** Second, RCG removed any parcel smaller than 20 acres.<sup>1</sup> RCG's 2020 employment land's working group, which included several experienced NAIOP-Southern Nevada members, determined that the Study's focus should be on these larger parcels.

**(Filter – 3: Parcel Slope)** Third, RCG removed parcels with more than a seven percent average slope. These parcels with steeper slopes make them difficult to develop for industrial and business park projects<sup>2</sup>.

**(Filter – 4: Geographic Area)** Fourth, RCG removed parcels not located in one of three geographic regions as defined below: (a) The Valley's Core; (b) Jean, Nevada; and (c) Nevada's Eldorado Valley. The objective of this filter is to remove outlying parcels too distant for likely development in the coming years allowing us to focus on land that is most likely to be developed during the Study Period.

**The Valley's Core:** RCG included parcels located in the following jurisdictions and townships, based on the Clark County Assessor's ("Assessor") assigned place names:

- Urban Island (Unincorporated Clark County exclaves),
- Unincorporated Clark County,
- North Las Vegas (includes APEX<sup>3</sup>),
- Enterprise,
- Las Vegas,
- Henderson,
- Spring Valley,
- Lower Kyle Canyon,
- Whitney,
- Red Rock - Blue Diamond,
- Summerlin South,
- Sunrise Manor,
- Lone Mountain and
- Sloan and Paradise

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<sup>1</sup> RCG did not consider assemblages of parcels, as the feasibility of assembling of parcels into groups of 20 or more acres is not currently known. Therefore, there may be assemblages that sum to 20 or more acres that are not included in the analysis.

<sup>2</sup> This was the same assumption used in the 2015 study prepared for the LVGEA.

<sup>3</sup> RCG included lands at APEX Industrial Park for two reasons. First, APEX is incorporated into the City of North Las Vegas. Second, the park is presently active and serving the Valley economically.

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In addition to parcels located in the Valley's Core, RCG identified two exurban areas located outside of Las Vegas. These areas include a set of parcels located in Jean, NV and a set of parcels in the Eldorado Valley – a portion of which are now situated within the City of Henderson.

**Jean, NV:** As shown in Figure A-1 of the Appendix, Tolles Development Co. acquired 10 parcels off of Interstate 15 in Jean, NV (approximately 25 miles south of the Las Vegas Strip) for construction of an industrial park consisting of a warehouse and distribution complex.<sup>4</sup> Parcels located within this geography were not included in RCG's 2020 study. Henceforth, when contrasting the supply of developable land between 2020 and 2023, we aggregate acreage with and without the inclusion of parcels situated in Jean, to demonstrate the expansion of gross acreage since 2020. Excluding parcels in Jean allows us to examine how the stock of developable land has changed since 2020. Including parcels in Jean permits us to provide the most accurate representation of how developable acreage looks as of April 2023.

**The Eldorado Valley:** Located near the jurisdictional boundaries of Boulder City there exist several thousand acres of land collectively referred to as the "The Eldorado Valley." As shown in Figure A-2 in the Appendix, roughly 8,000 acres of this land was annexed by the City of Henderson in 2022, effectively expanding the City's jurisdictional boundary. The annexed areas are now commonly referred to by the city as the "Eldorado Valley Annexation Edge."<sup>5</sup> This land did not previously belong to the City of Henderson at the time when RCG's 2020 study was conducted. Henceforth, we summarize results separately for (a) developable parcels that belong to the City of Henderson based on the geographic extent of the City of Henderson that existed prior to the annexation and (b) developable parcels located in the annexed portion of The Eldorado Valley. This approach allows us to make an apples-to-apples comparison of the change in developable acreage in Henderson between 2020 and 2023, holding the geographic extent of the City of Henderson constant while simultaneously accounting for remaining developable acreage associated with parcels belonging to the Eldorado Valley Annexation Edge.<sup>6</sup>

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<sup>4</sup> <https://www.reviewjournal.com/business/developer-looks-to-break-ground-in-2023-on-industrial-complex-south-of-las-vegas-2700615/>

<sup>5</sup> <https://www.cityofhenderson.com/government/departments/community-development-and-services/special-projects/east-henderson-desert-edge-study>

<sup>6</sup> For completeness we note here that there exists an additional portion of The Eldorado Valley belonging to the U.S. Department of Interior, Bureau of Land Management land that at the time of this study is not part of either jurisdiction. On February 14, 2023 the Boulder City Council voted to begin the process of annexing 2,550 acres of land in this area. On February 25, 2023 the Henderson City Council voted to approve a resolution for advancing an annexation of land in the same area. That said, our research indicates that the City of Henderson has no intent for developing this land beyond the inclusion of developing roads in and out of the area. We ultimately exclude parcels belonging to said area. This exclusion is without loss of generality: parcels in this geographic region do not survive the application of filters described thus far; an empirical finding ostensibly consistent with the sentiment of the City of Henderson for not developing parcels located in this region pending a successful annexation. Sources: <https://www.bcnv.org/957/Eldorado-Valley-Annexation-2023>. [Henderson City Council votes to move forward with annexing land – \[your\]NEWS \(yournews.com\)](#).

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That said, RCG has not included other exurban land potentially available for development outside of the three geographic regions defined above. These lands include Boulder City; Ivanpah Valley ("Ivanpah") (6,000 to 23,000 acres)<sup>7</sup>; Mohave Generating Station site (2,500 acres near Laughlin); and Southland (9,000 acres near Laughlin).

Development in Ivanpah, about 30 miles southwest of the Valley, is limited by the federal government. Six thousand acres were expressly set aside for construction and operation of a supplemental airport.<sup>8</sup> Much of it is contingent on the construction of that new airport by the Clark County Department of Aviation. However, its use as an airport is still 10 years in the future at the earliest. The 2002 Clark County Conservation of Public Land and Natural Resources Act allows the county to acquire an additional 17,000 acres for airport compatibility, subject to obtaining environmental approval.<sup>9</sup> Given the uncertainty connected with the supplemental airport, RCG has not included these potential acres in this Study.

**Figure V-1: Southern Nevada Supplemental Airport Location**



Source: Clark County Department of Aviation<sup>10</sup>

<sup>7</sup> "Southern Nevada Supplemental Airport Planning - Phase 1," Clark County Department of Aviation and Ricondo & Associates, Inc., June 24, 2021.

<sup>8</sup> Ivanpah Valley Airport Public Lands Transfer Act of 2000

<sup>9</sup> "Southern Nevada Supplemental Airport Planning - Phase 1," p. 4.

<sup>10</sup> <https://news3lv.com/news/local/clear-need-for-las-vegas-supplemental-airport-as-harry-reid-sets-new-record>

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Regarding Boulder City, access to available lands for large-scale development in that jurisdiction are strictly controlled via its Land Management Process.<sup>11</sup> This is a recurring annual process for the sale or lease of city-owned lands. Parcels approved by the city council for potential sale or lease are subject to several bureaucratic steps, including a series of public hearings. Additionally, voters of Boulder City must approve all sales of city-owned parcels. The remaining sites are too distant from the County's urban core and unlikely to be developed to any great degree during the Study Period. Southland has remained vacant ever since it was transferred from the federal government and plans for the Mohave Generating Station site are still uncertain despite being cleared since 2011.<sup>12</sup>

**(Filter – 5: Federal Ownership)** For the fifth filter, RCG removed federally-owned lands beyond the BLM Disposal Boundary ("DB"). Because these lands are not subject to sale through the SNPLMA, they are unlikely to be released for development by the federal government without legislative changes. The Study assumes that all federal lands within the DB will be made available as needed, and assuming the proper environmental safeguards.

**(Filter – 6: Parcel Shape)** The sixth filter removed irregularly shaped parcels that would not be suitable for development. To measure this attribute, RCG calculated the ratio of a parcel's area to its perimeter. Mathematically, a circle minimizes this ratio.<sup>13</sup> The more jagged and irregular a shape becomes, the more its perimeter grows relative to its area. RCG was able to identify oddly shaped parcels using this measure. To limit the removal of parcels with a high ratio that would still be suitable for development, RCG manually checked all parcels that exceeded the threshold for removal.<sup>14</sup>

**(Filter – 7: Parcel Zoning)** The seventh filter removed parcels based on their zoning. RCG kept parcels zoned as industrial/manufacturing, commercial, open land/undeveloped, public/semipublic, rural residential or not zoned. Rural residential zoning is often used by Valley jurisdictions as a default zoning.

**(Filter – 8: Developer Ownership)** The eighth filter removed parcels whose recorded owner is a known residential developer. RCG relied on the expertise and research of Home Builders Research, a well-known supplier of Clark County housing data, to identify and remove these developers' parcels from the data set.

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<sup>11</sup> <https://www.bcnv.org/465/Land-Management-Process>

<sup>12</sup> [http://www.mohavedailynews.com/laughlin\\_times/making-moves-to-try-and-develop-the-southland/article\\_aaa4813a-dba3-11e7-927c-47f3149a35b1.html](http://www.mohavedailynews.com/laughlin_times/making-moves-to-try-and-develop-the-southland/article_aaa4813a-dba3-11e7-927c-47f3149a35b1.html); <https://www.clarkcountynv.gov/administrative-services/laughlin-development/Pages/9,000AcresofLand.aspx>

<sup>13</sup> <https://math.stackexchange.com/questions/389339/among-all-shapes-with-the-same-area-a-circle-has-the-shortest-perimeter>

<sup>14</sup> The threshold for potential removal from the data set was based on a regression analysis. RCG compared the natural logarithm of the area-to-perimeter ratio to the natural logarithm of the area. This produced a linear relationship between the measures that allowed for a linear regression. RCG then calculated the residual errors of every parcel and manually checked all positive outliers—in this case, a residual error greater than 0.375.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

**(Filter – 9: Proximity to Roads)** The ninth and final filter removed parcels that were located more than one mile from their nearest road access. This one-mile standard came from the 2020 study's working group. This portion of the analysis required geo-locating the parcels relative to Clark County roadways using GIS.

### A.2 Ranking Developable Parcels

After all the filters were applied, RCG produced a ranking of the resultant set of vacant, developable parcels in the data. The rankings of these parcels are based on eight factors. They included a parcel's zoning, average slope, acres over seven-percent slope, ownership, assessed value, distance to freeway, distance to highway and distance to rail. Every parcel was awarded either a zero, one or two points for each ranking factor for a total possible score of 16 (see Table V-1).

**Table V-1: Employment Land Analysis Rank Scoring Point Scale, 2023**

Rank Criteria	0 Points	1 Point	2 Points
Zoning	Not Industrial/Undeveloped	Undeveloped/Open Space	Industrial
Average Slope	Greater than 3.5%	NA	Less than or equal to 3.5%
Owner	Federal-Owned	Municipality-Owned	Privately-Owned
Acres Over 7% Slope	Greater than 2 Acres	0.5 - 2 Acres	Less than or equal to 0.5 Acres
Assessed Value Per Acre	Greater than \$100,000	\$50,000 - \$100,000	Less than or equal to \$50,000
Distance to freeway	Greater than 5,280 sf	1,320 - 5,280 sf	Less than or equal to 1,320 sf
Distance to highway	Greater than 2,640 sf	250 - 2,640 sf	Less than or equal to 250 sf
Distance to railroad	Greater than 5,280 sf	250 - 5,280 sf	Less than or equal to 250 sf

Source: RCG

Based on these total scores, parcels were ranked into four tiers. Parcels with more points received higher rankings:

- Tier 1: 13 – 16 points
- Tier 2: 9 – 12 points
- Tier 3: 5 – 8 points
- Tier 4: 0 – 4 points.

**(Criteria – 1: Zoning)** The first ranking criterion was zoning. Parcels zoned for industrial or manufacturing uses were given two points. Parcels zoned for open space uses were awarded one point. All other zoning categories, such as commercial, were awarded no points. RCG used this ranking system because parcels already zoned for industrial uses should not require a zoning change; parcels zoned as open space must have their zoning changed, by definition, prior to development so RCG would expect that process to be relatively straightforward; other zoning types would require rezoning to industrial zones, which RCG assumed would involve more resources to accomplish.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

**(Criteria – 2: Average Slope)** The second ranking standard was based on a parcel's average slope. An informal survey of the Study's working group suggested that parcels with a slope of less than four percent would be easiest to develop. Because the data set includes only parcels with an average slope of seven percent, RCG divided this slope in half to produce a split at 3.5 percent—close to four percent. Parcels with an average grade of less than 3.5 percent were awarded two points, otherwise they received no points.

**(Criteria – 3: Acreage Over 7% Slope)** Next, parcels were graded on the amount of land with more than a seven-percent slope. While parcels with an average slope of over seven percent were removed, many parcels with an average slope of less than seven percent contain some share of land with a slope of greater than seven percent. RCG calculated how many acres of each parcel exceeded this limit and assigned it a score based on that amount. Parcels with less than 0.5 acres of land over this limit received two points. Parcels with 0.5 to two acres of land with more than a seven-percent slope received one point. Parcels with more than two acres with more than a seven percent slope received no points.

**(Criteria – 4: Ownership)** The fourth ranking metric concerned ownership. Parcels owned by the federal government received no points. Those owned by Clark County municipalities received one point and parcels owned by private parties received two points.

**(Criteria – 5: Value)** The fifth ranking measure was assessed value per acre, based on Assessor data. Assessments were for fiscal-year 2022. Parcels with an assessed value of less than or equal to \$50,000 per acre were awarded two points. Assessments per-acre of \$50,000 to \$100,000 were given one point and values greater than \$100,000 per acre were given no points. RCG developed these ranges by observing clustering in the data. There appeared to be a cutoff at approximately \$50,000. The remaining parcels were spread relatively randomly around \$100,000, which helped in determining the other two groups.

**(Criteria – 6: Transportation)** The remaining ranking metrics were based on distance from transportation infrastructure. RCG again used clusters in the data to guide in finding cutoffs for the scoring ranges. Clusters nearest the infrastructure type received two points. The remaining parcels were generally split in half into the remaining two groups. Parcels less than one-quarter miles from a freeway were awarded two points. One-quarter mile to one mile equated to one point. Parcels more than one-mile from a freeway received no points. In terms of distance from a highway, parcels received two, one and zero points if they were less than or equal to 250 feet away, 250 feet to one-half mile away and more than half a mile away, respectively. Distance from a railroad was graded as: less than 250 feet (two points), 250 feet to one mile (one point) and more than one mile (no points).

RCG summed the points from all criteria to produce final rankings based on four-point increments. Figure A-3 in the Appendix to this report displays the parcels ranked by RCG with Assessor's Parcel Number and scores across the six categories.

### ***B. Land Supply & Economic Development***

This section reviews the methodology for comparing forecasted job growth with the potential demand for land. RCG used data from [Lightcast](#) and [Woods & Poole Economics](#) ("WPE") as well as previous RCG analyses. Both Lightcast and WPE are highly respected forecasters of economic data.

The purpose of this section was to understand how job growth in various industries is likely to drive land demand. RCG accomplished this in a several steps. First, RCG relied on forecasts from Lightcast and WPE for job growth between 2023 and 2030. Then RCG converted the number of new jobs by industry to derive the demand for land to accommodate those jobs. For this task, RCG relied on the U.S. Energy Information Administration's data on mean square feet per employee by industry. Finally, after converting employment forecasts to square feet and translating these values to acres, RCG applied Floor Area Ratios by building type to estimate the number of acres needed to accommodate the forecasted job growth.<sup>15</sup>

### ***C. Economic Costs of Land Constraints***

This section discusses the methodology used to estimate the economic costs of land constraints to the Clark County economy. Similar to the 2016 TRI report, RCG assumed three growth scenarios: the unconstrained Base-Case scenario, a three percent cost disadvantage and a five percent cost disadvantage. Also, like the TRI report, RCG used a forecast period in the Study that does not necessarily coincide with the years that would show negative effects due to land constraints. Instead, the purpose was to show that relatively small business costs resulting from land constraints could have relatively large effects on the region's future economic growth. In this regard, RCG used a forecast horizon of 2021 – 2030 because 2021 was the most recent year with updated economic data across major four metrics: economic output, employment, earnings and gross regional product.

The data sources used for this analysis were IMPLAN and WPE. IMPLAN (IMpact Analysis for PLANning) is a widely accepted economic input-output model.<sup>16</sup> The IMPLAN model has been in use since 1979. The model accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the U.S. Bureau of Economic Analysis. The IMPLAN model used in the Study was specific to Clark County.

<sup>15</sup> e.g., "Jobs-Housing Nexus Study," Keyser Marston Associates, Inc., August 2013

<sup>16</sup> <https://www.implan.com/>

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

RCG used IMPLAN to estimate the annual costs of the economic cost disadvantages resulting from potential land constraints. For this reason, RCG based the 2021 start values on IMPLAN data. Also, because IMPLAN is not capable of estimating changes in population, RCG did not include that metric in the analysis.

As mentioned, the first step in this analysis was to establish estimates for 2023 for Clark County. These came from IMPLAN, which, in turn, bases its estimates on data from the Bureau of Economic Analysis' annual National Income and Product Accounts tables. Second, RCG developed the Base-Case forecast using growth rates from WPE for each of the four metrics.

The next part of the analysis was to estimate the magnitude of the annual economic disadvantages. For this, RCG again relied on IMPLAN. IMPLAN can measure various benefits of sectors' economic contributions. These impacts are direct, indirect and induced.

The concept of a direct benefit is relatively straightforward. However, the concepts of indirect and induced benefits, while critically important in assessing the totality of sectors' economic contributions, are often misunderstood in economic analysis. Fundamentally, these secondary and tertiary benefits are based on an extension of the direct expenditures/spending associated with a group of sectors. Each type of benefit is briefly summarized below.

- **Direct benefits** are due to consumer spending at businesses; the jobs created to support those firms; and the earnings (employee compensation, proprietor income and benefits paid) in a region.
- **Indirect benefits** are the local purchases of goods and services resulting from the initial direct spending at a business. For example, a food manufacturer's spending on raw meats and vegetables, rent, utilities and the like will cause its suppliers to replenish inventories, etc. These sales are counted as an indirect economic benefit.
- **Induced benefits** are the output, employment and earnings growth generated by the employees of a firm and its local suppliers as they consume goods and services in the regional economy. Put another way, induced benefits are benefits from earnings spent by direct and indirect employees. For example, an employee works for a food manufacturer. Some portion of his or her personal income will be spent locally, will cycle through the region and will be exchanged among local merchants, thus, inducing additional new spending (retail, food, gas, etc.) and employment in the region.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

The sum of these benefits provides the total contributions of a sector or group of sectors. Therefore, to estimate the effects on the Clark County economy, RCG modeled three and five percent reductions to the economic contributions of Clark County's primary employment sectors in the IMPLAN model.

The sum of the direct, indirect and induced contributions provides the total annual contributions of the industrial land-using sectors to the Clark County economy under the two cost disadvantage scenarios. RCG adjusted the disadvantage estimates using the annual growth rates in the base forecast to maintain an apples-to-apples comparison over time between all three scenarios. To estimate the forecasts under the two disadvantage scenarios, RCG applied the reductions in the four metrics to the growth under the Base-Case. This resulted in the economic growth dampening effects on base scenario generated by the two cost disadvantage scenarios.

The model's results for economic output/spending, earnings and gross product were in 2023 dollars. The employment forecasts herein are presented in total employment (both full-time and part-time jobs).

## VI. RESULTS

### **A. Overview**

This section summarizes the Study's major findings from the report sections. As noted above, this policy brief focuses on the major findings of our employment land market analysis for Southern Nevada. Therefore, the focus herein is on the results described in the Study's three most impactful sections as listed below. RCG also discusses some of the most critical issues facing the region in the future as it attempts to optimize its long-term economic sustainability.

- Employment Land Inventory
- Land Supply & Economic Development
- Economic Costs of Land Constraints

### **B. Employment Land Inventory**

After applying all filters, RCG identified 142 vacant developable parcels of varying sizes in the Study Area. We summarize the number of parcels and amount of parcel acreage, by community and by tier, in Table V-1 on the following page.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

**Table VI-1: Employment Land Analysis, Acres and Parcels by Community and Tier, 2023**

Community	Tier 1		Tier 2		Tier 3		Tier 4		All Tiers	
	Acres	# Parcels	Acres	# Parcels	Acres	# Parcels	Acres	# Parcels	Acres	# Parcels
Enterprise	-	-	98	2	472	14	-	-	570	16
Henderson	-	-	249	5	2,231	22	420	7	2,900	34
Las Vegas	-	-	28	1	3,134	19	290	1	3,452	21
Lone Mountain	-	-	-	-	30	1	-	-	30	1
Lower Kyle Canyon	-	-	-	-	147	4	-	-	147	4
North Las Vegas	-	-	4,636	24	3,063	15	-	-	7,699	39
Paradise	-	-	-	-	43	2	-	-	43	2
Spring Valley	-	-	-	-	122	3	71	1	193	4
Summerlin South	-	-	-	-	58	1	-	-	58	1
Sunrise Manor	-	-	-	-	66	2	41	1	107	3
Unincorporated	-	-	-	-	331	2	-	-	331	2
Urban Island	-	-	22	1	-	-	-	-	22	1
Whitney	-	-	-	-	187	3	-	-	187	3
<b>Subtotal</b>	-	-	<b>5,033</b>	<b>33</b>	<b>9,884</b>	<b>88</b>	<b>822</b>	<b>10</b>	<b>15,739</b>	<b>131</b>
Eldorado Annexation	-	-	-	-	120	2	347	2	467	4
Jean	-	-	-	-	196	7	-	-	196	7
<b>Total</b>	-	-	<b>5,033</b>	<b>33</b>	<b>10,200</b>	<b>97</b>	<b>1,169</b>	<b>12</b>	<b>16,402</b>	<b>142</b>

Sources: RCG, Assessor

In Table V-2, we aggregate results by community and contrast developable acreage in 2020 with developable in 2023. RCG's 2020 study found 19,088 remaining vacant acres in 198 parcels of potentially developable employment land in the Las Vegas Valley. This was land potentially available for the development of private commercial projects.

Please note, the employment land discussed herein is gross raw acreage; as such, not all acres can be developed. Additionally, land that could potentially be developed for employment-oriented uses does imply not mean that all of it will be used as such. Much of it could possibly be used for other purposes, such as residential and public uses.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

As of 2023, with the inclusion of parcels located in Jean, RCG has identified 16,402 remaining acres in 142 parcels representing a 14.1 percent decrease in developable acreage relative to 2020. Expressed as a compound annual growth rate, the 14.1 percent total decrease between 2020 and 2023 represents an average decline of 4.9 percent in developable acreage per year since 2020.

**Table VI-2: Employment Land Analysis, Acres and Parcels by Community, 2020 vs. 2023**

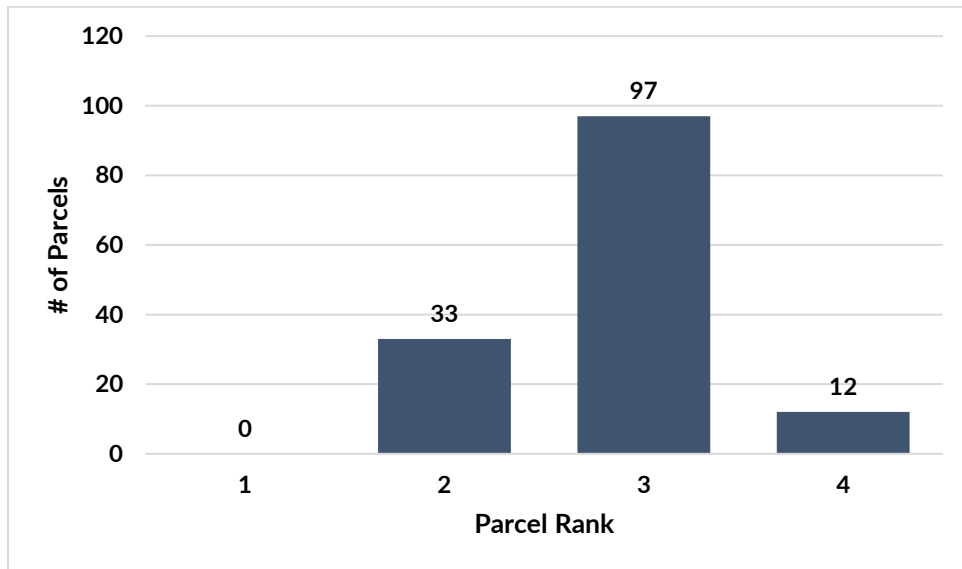
Community	2020	2023	Change	% Change	2020	2023	Change	% Change
	Acres	Acres			# Parcels	# Parcels		
Enterprise	773	570	(203)	-26%	18	16	(2)	-11%
Henderson	3,899	2,900	(999)	-26%	54	34	(20)	-37%
Las Vegas	3,593	3,452	(141)	-4%	25	21	(4)	-16%
Lone Mountain	30	30	-	0%	1	1	-	0%
Lower Kyle Canyon	213	147	(66)	-31%	5	4	(1)	-20%
North Las Vegas	8,923	7,699	(1,224)	-14%	61	39	(22)	-36%
Paradise	43	43	-	0%	2	2	-	0%
Spring Valley	393	193	(200)	-51%	8	4	(4)	-50%
Summerlin South	176	58	(118)	-67%	5	1	(4)	-80%
Sunrise Manor	128	107	(21)	-16%	4	3	(1)	-25%
Unincorporated	331	331	-	0%	2	2	-	0%
Urban Island	79	22	(57)	-72%	2	1	(1)	-50%
Whitney	187	187	-	0%	3	3	-	0%
Not Ranked	320	-	-	-	8	-	-	-
<b>Subtotal</b>	<b>19,088</b>	<b>15,739</b>	<b>(3,349)</b>	<b>-18%</b>	<b>198</b>	<b>131</b>	<b>(67)</b>	<b>-34%</b>
Eldorado Annexation	-	467	-	-	-	4	-	-
Jean	-	196	-	-	-	7	-	-
<b>Total</b>	<b>19,088</b>	<b>16,402</b>	<b>(2,686)</b>	<b>-14%</b>	<b>198</b>	<b>142</b>	<b>(56)</b>	<b>-28%</b>

Sources: RCG, Assessor

Figure V-1 graphically illustrates developable parcels, by parcel ranking, while Figure V-2 displays developable acreage by parcel ranking. Of the 142 parcels remaining, 23 percent are Tier 2, 68 percent are Tier 3 and all remaining parcels are Tier 4. No Tier 1 parcels remain.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

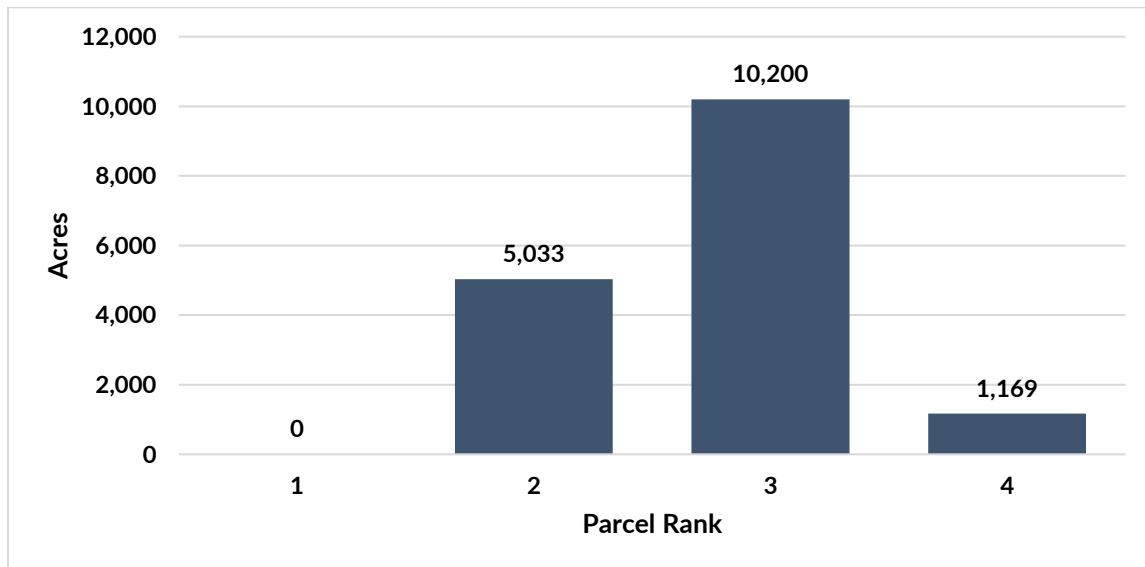
Figure VI-1: Employment Land Analysis, Number of Parcels by Rank, 2023



Sources: RCG, Assessor

Of those 16,402 remaining acres, 31 percent are Tier 2, 62 percent are Tier 3 and all remaining acres are Tier 4.

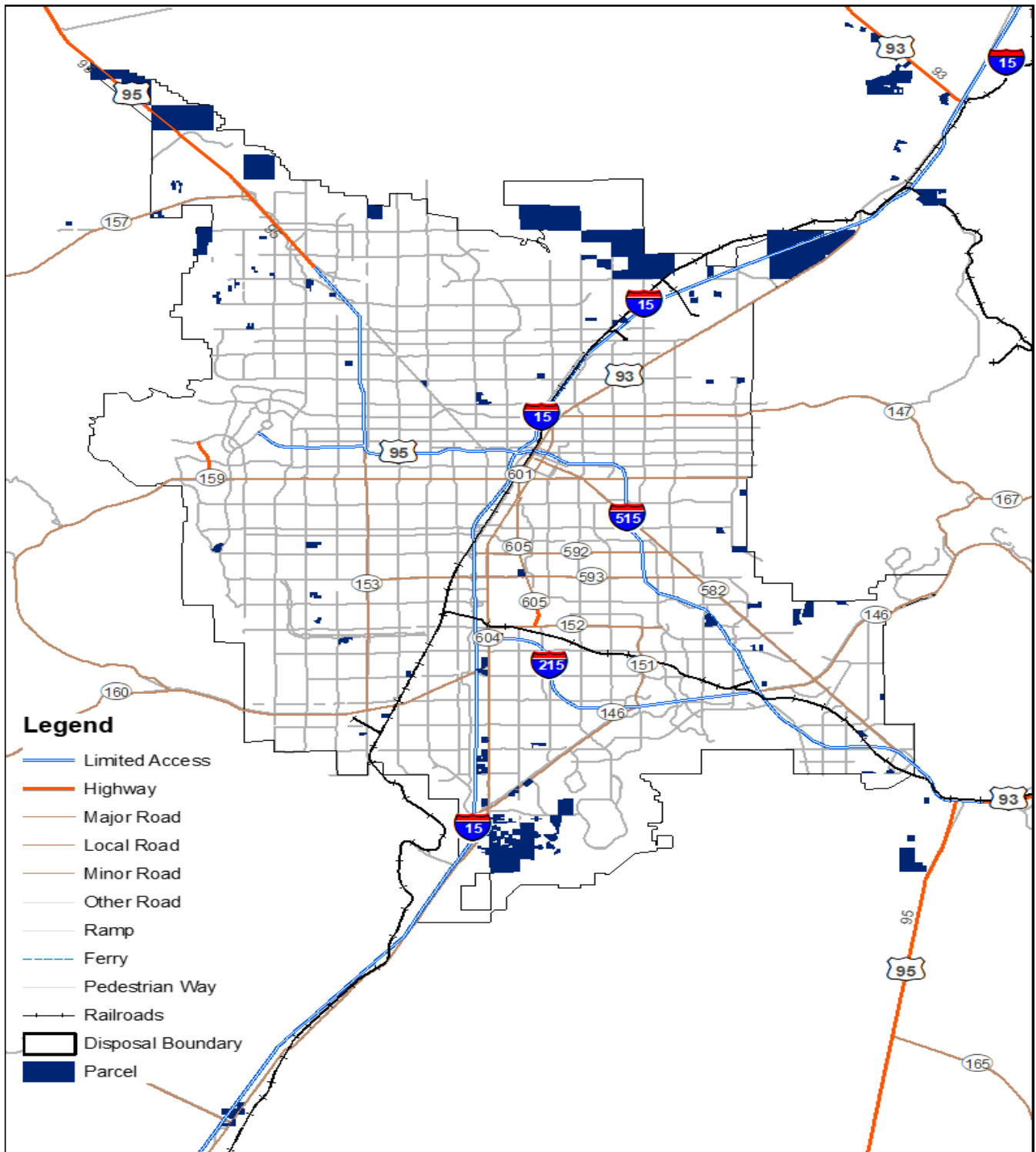
Figure VI-2: Employment Land Analysis, Acres by Rank, 2023



Sources: RCG, Assessor

Finally, in Figure V-3, below, we visually illustrate the location of parcels included in the analyses.

Figure VI-3: Employment Land Analysis Parcels Map, 2023

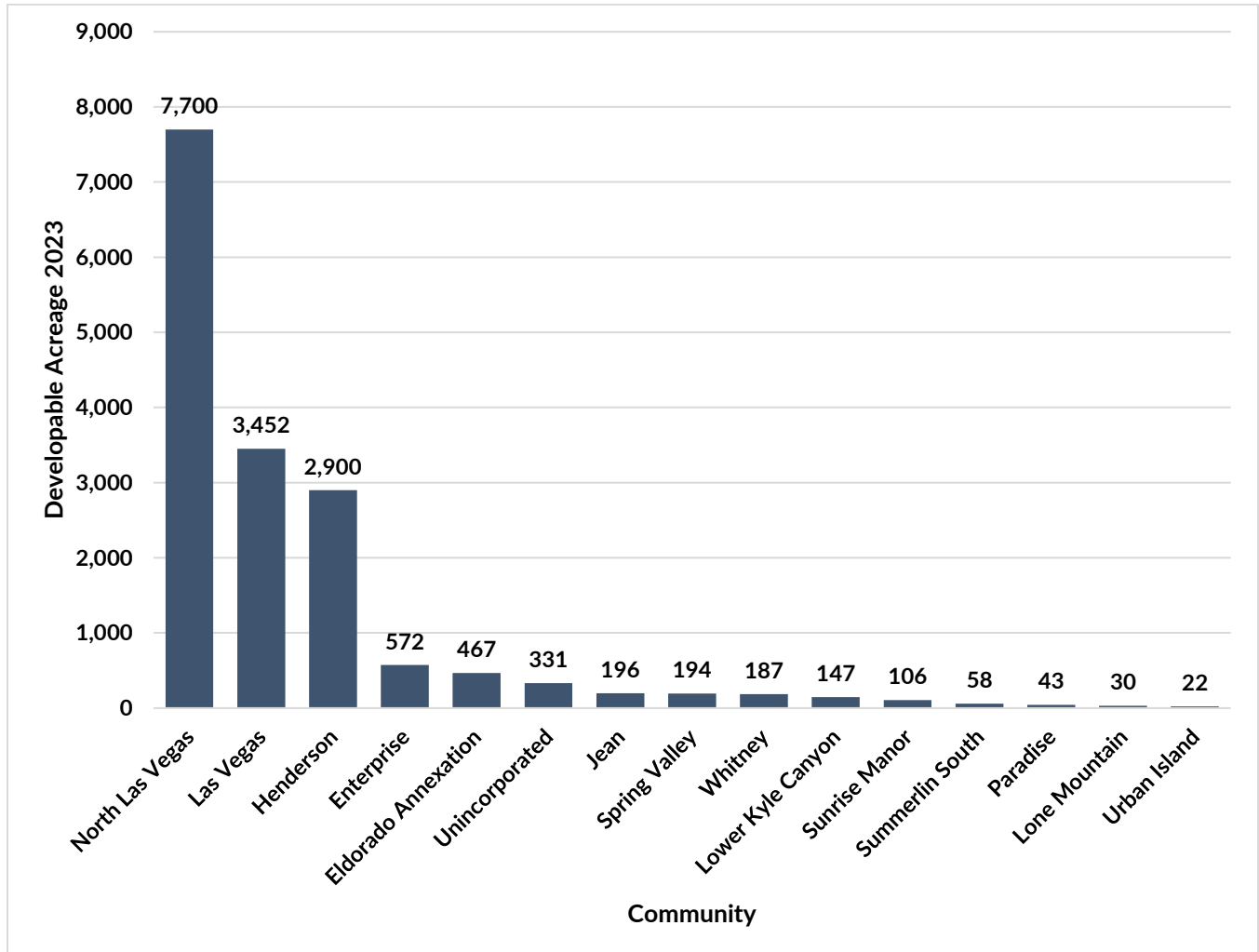


Sources: RCG, Assessor

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

As shown in Table V-1, above, the City of North Las Vegas (“NLV”) contains the most acreage that could be used as employment land, with about 7,699 acres. This is largely due to APEX Industrial Park. Figure V-4, below, displays the supply of developable land by community.

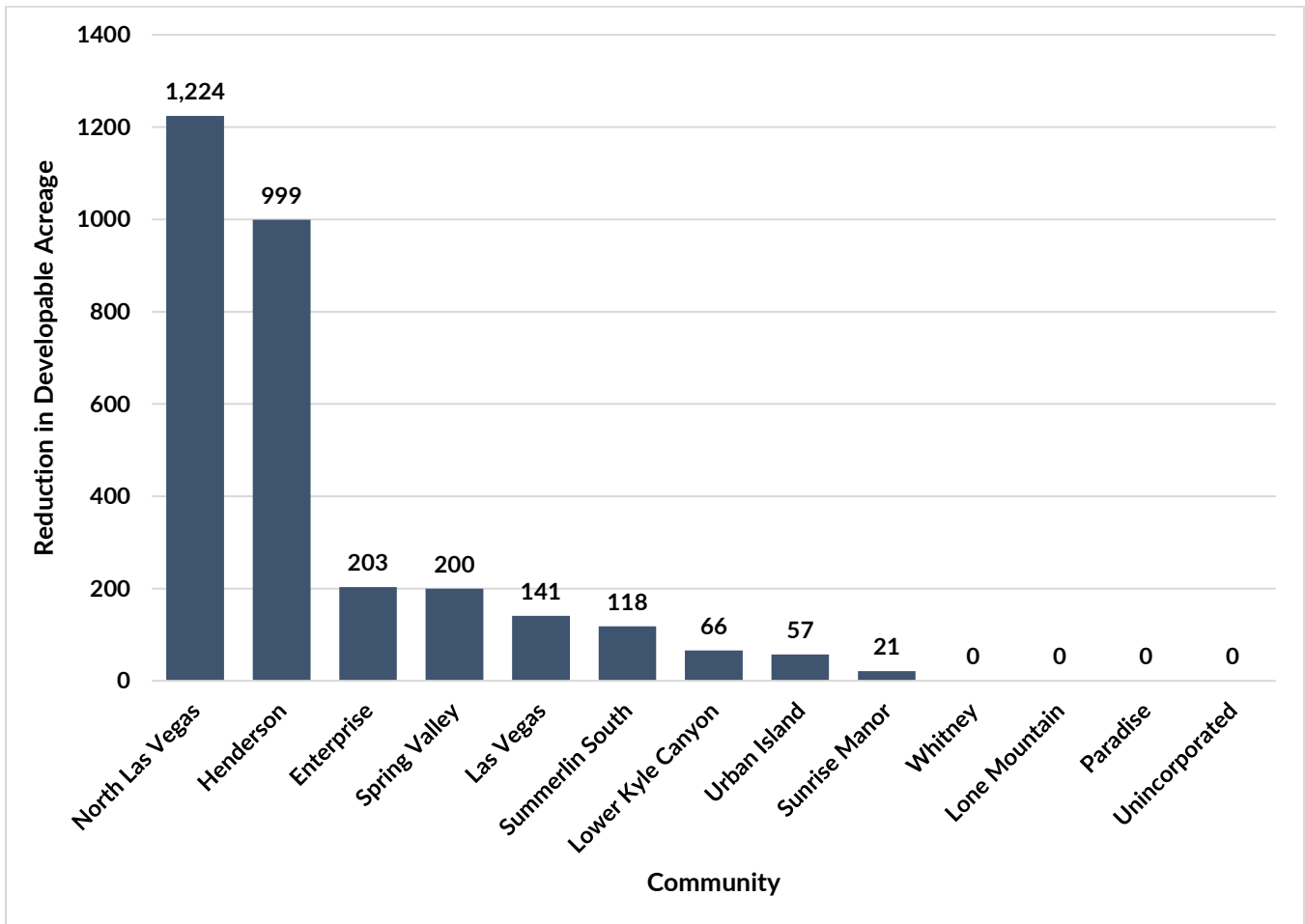
**Figure VI-4: Developable Acreage by Area/Community, 2023**



Source: RCG, Assessor

The City of Las Vegas and the City of Henderson follow NLV with 3,452 and 2,900 acres, respectively. Figure V-5, below, plots the reductions in developable acreage by community between 2020 and 2023.

Figure VI-5: Reduction in Developable Acreage by Community, 2020 - 2023

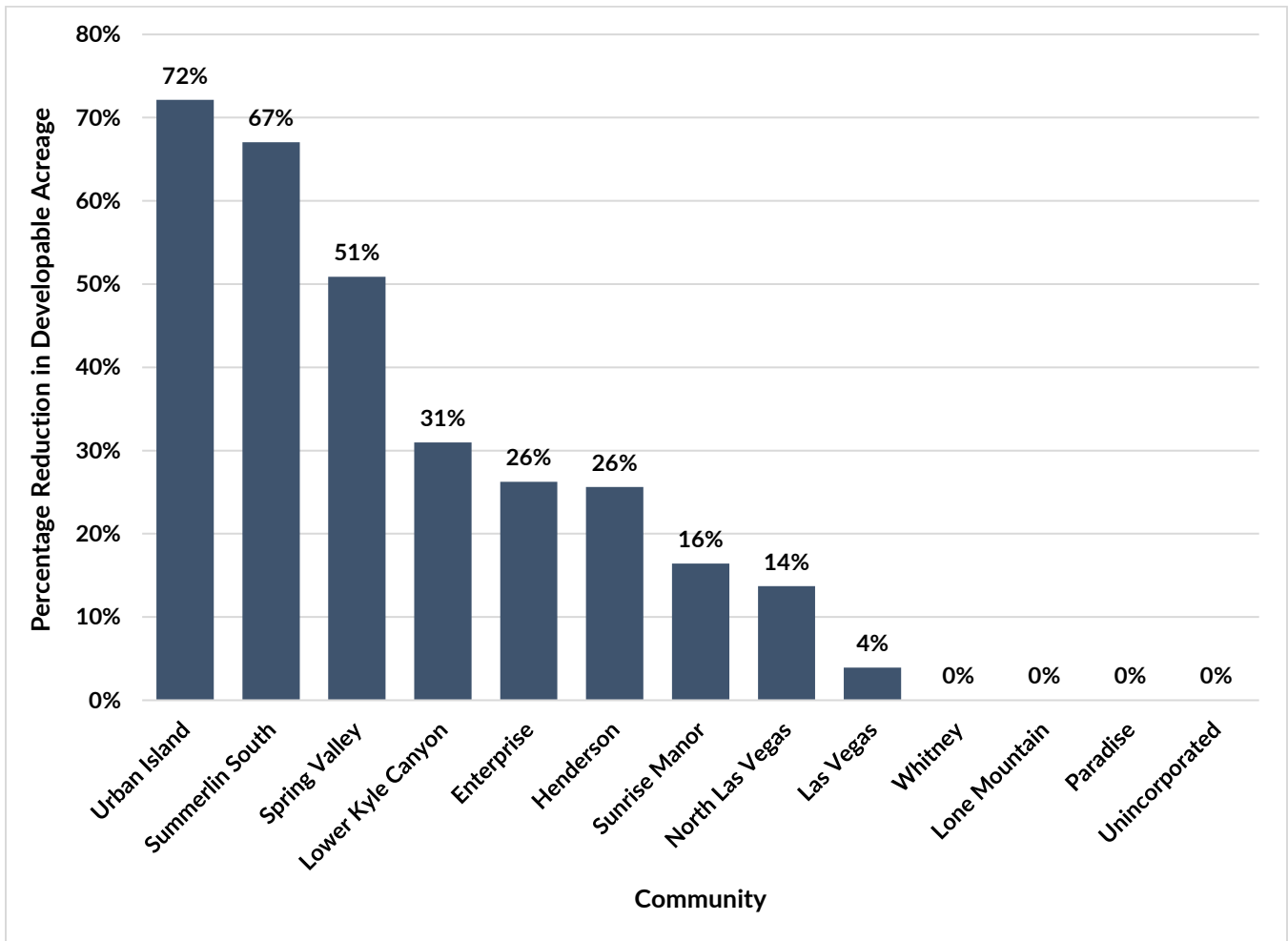


Note: Reduction in available acres is expressed in absolute terms, i.e., -1224 is displayed as 1224.

Source: RCG, Assessor

NLV saw the largest reduction in vacant lands (1,244 acres) followed by Henderson (-999 acres) and Enterprise (-203 acres). The City of Las Vegas has the second highest amount of developable land and ranks 5<sup>th</sup> in terms of the communities that experienced the largest declines in developable acreages (-141 acres). As shown in Figure V-6, below, the City of Las Vegas ranks 9<sup>th</sup> when the reduction in developable acreage is expressed in proportional terms (-4%).

Figure VI-6: Percentage Reduction in Developable Acreage by Area/Community, 2020 - 2023



Note: Percentage reduction in available acres is expressed in absolute terms, i.e., -72% is displayed as 72%.

Source: RCG, Assessor

The preceding analysis describes shifts in the availability of land suitable for commercial and industrial development across communities in Southern Nevada between 2020 and 2023. To provide a more nuanced descriptions of land use conversions that occurred during this period, see Figures A4 – A5 in the Appendix, RCG has mapped the spatial density of retail, office and industrial developments since 2020. These maps display the developed building footprint per square mile for each square mile in the Las Vegas Valley.

### C. Land Supply & Economic Development:

In this section, RCG forecasted Clark County job growth to estimate the associated demand for employment land demand. This was necessary to develop and estimate whether the available land supply discussed above may be able to support economic development and growth in Clark County.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

As RCG found in its earlier studies, on a gross acreage basis, there may exist sufficient vacant land to accommodate the region's economic diversification over the next several years (i.e., industry growth exclusive of lodging and hospitality jobs), but it is the developability of this land that is in question. To account for unforeseen factors between 2023 and 2030, RCG utilized two forecasts to develop three scenarios of demand for employment land in Southern Nevada. These three scenarios and the sources of forecast data are displayed in Table V-3:

**Table VI-3: Employment Land Forecast, Southern Nevada, 2023 – 2030\***

Scenario	Total Employment 2023	Total Employment 2030	Total Job Growth	Source
Scenario 1 - Low	926,000	1,052,000	82,000	Lightcast
Scenario 2 - Mid	1,064,000	1,233,000	147,000	Average of Low and High
Scenario 3 - High	1,202,000	1,414,000	213,000	Woods & Poole Economics

\*Note: These employment forecasts are exclusive of the Accommodation and Food Services (i.e., lodging and hospitality) sector.

Sources: Lightcast, Woods & Poole Economics

Scenario 2 – Mid estimate indicates that Clark County should experience a growth of 147,000 non-lodging and hospitality industry jobs between 2023 and 2030. These new jobs are projected to need about 5,500 acres of land, as shown in Table V-4 below. Depending on the scenario, the range of acres needed is 3,100-8,000.

**Table VI-4: Clark County Job Growth\* & Land Demand, 2023 - 2030**

Description	Total
Job Growth-Scenario 2-Mid, 2023 - 2030	147,000
Square Feet per Employee <sup>17</sup> (Weighted Average)	866 sf
Additional Square Feet of Buildings Needed	127,500,000 sf
Additional Acres Needed for Buildings Only	2,927 acres
Floor Area Ratio for Buildings (Weighted Average)	0.53
<b>Additional Acres of Land Needed</b>	<b>5,500 acres</b>

\*Note: These employment forecasts are rounded and exclusive of the Accommodation and Food Services (i.e., lodging and hospitality) sector. Floor Area Ratio is the ratio of building area to land area for each acre of land that is occupied by the building/structures.

Sources: RCG, Lightcast, Woods & Poole Economics

With an estimated demand for 5,500 acres and a supply of approximately 16,400 acres, the initial implication is that there is enough land to meet the needs of the region's economy for the foreseeable future. However, as

<sup>17</sup> U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, December 2016

noted, not all the remaining vacant land included herein is rated highly for employment uses (e.g., economic development), based on the ranking system employed herein.

Importantly, examining lands in Tiers 1 and 2, there are only 5,033 acres available, and all of these are Tier 2. This represents a possible deficit of almost 470 acres of Tier 2 land between 2023 and 2030. Accordingly, once all the Tier 2 land has been developed, the Clark County economy and its business community will have to rely on less desirable land for growth (Tiers 3 and 4).

Using land/parcels less suited to industrial and commercial development could introduce cost disadvantages, as modeled below, compared to the more well-suited Tier 1 and 2 lands. This conclusion assumes that, sometime in the future, the BLM will make available commercially (e.g. non-residential) viable parcels in the final parcel list identified in this Study. As demonstrated in the following section, the regional economic cost disadvantages brought on by developable land shortage could have significant effects on Clark County's economic development and resilience potential.

### ***D. The Economic Cost of Land Constraints: Clark County***

RCG finds that the effects on the local economy resulting from possible land constraints are significant and increase over time. RCG fashioned its model after the one used in its 2020 report with the same three economic growth scenarios. As note previously, one scenario provided the Base-Case of growth that assumed no future land constraints in Clark County. Two other scenarios modeled growth under land constraints that produced three percent and five percent cost disadvantages affecting employment land-using sectors. There may be an expectation that such disadvantages are minor, but their effects compound over time and have major long-term consequences for economic growth in Clark County.

The results relative to total and average changes in the economy are summarized as follows:

#### **Economic Output Impact<sup>18</sup>**

**Base-Case:** Average annual growth rate = 4.6%, growing from \$227 billion in 2021 to \$340 billion in 2030

**3% cost disadvantage:** Economic activity reduction over Study Period: \$19 billion

**5% cost disadvantage:** Economic activity reduction over Study Period: \$31 billion

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<sup>18</sup> Source: IMPLAN; 4.6 percent is the compound annual growth rate of Clark County's GDP from 2016 through 2021.

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

### Job Impact<sup>19</sup>

**Base-Case:** Average annual growth rate = 2.2% or 36,000 jobs per year (2023 – 2030), reaching 1.78 million jobs in 2030

**3% cost disadvantage:** Economic activity reduction over Study Period: 82,000 jobs

**5% cost disadvantage:** Economic activity reduction over Study Period: 137,000 jobs

### Earnings (Wages and Business Income) Impact<sup>20</sup>

**Base-Case:** Average annual growth rate = 3.3% or \$2.9 billion per year (2023 – 2030), reaching \$100.2 billion in 2030

**3% cost disadvantage:** Economic activity reduction over Study Period: \$5.3 billion

**5% cost disadvantage:** Economic activity reduction over Study Period: \$8.8 billion

### Gross Regional Product Impact<sup>21</sup>

**Base-Case:** Average annual growth rate = 3.3% or \$4.8 billion per year (2023 – 2030), reaching \$164.7 billion in 2030

**3% cost disadvantage:** Economic activity reduction over Study Period = \$9.3 billion

**5% scenario disadvantage:** Economic activity reduction over Study Period = \$15.5 billion

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<sup>19</sup> Employment results in our model are measured in total jobs (full-time and part-time jobs); Sources: WPE, IMPLAN; 2.2 percent is the projected compound annual growth rate for jobs in Clark County from WPE between 2023 and 2030.

<sup>20</sup> Sources: WPE, IMPLAN; 3.3 percent is the forecasted compound yearly growth rate for earnings in Clark County from WPE from 2023 through 2030.

<sup>21</sup> Sources: WPE, IMPLAN; 3.3 percent is the estimated compound annual growth rate for GDP in Clark County from WPE between 2023 and 2030.

## A. APPENDIX – SUPPLEMENTARY FIGURES & TABLES

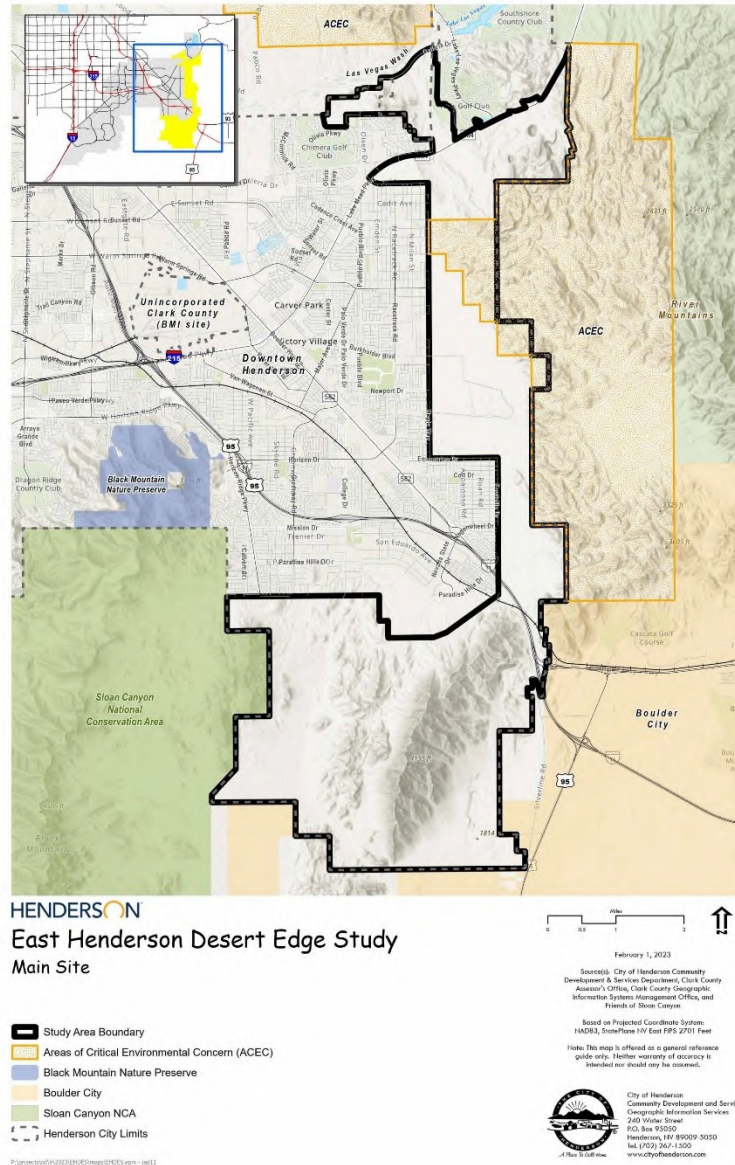
Figure A-1: Parcels Located in Jean, NV



Source: Tolles Development.

# SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

Figure A-2: The Eldorado Valley Annexation Edge – Henderson, NV



Source: City of Henderson

# SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

Figure A-3: Employment Land Analysis, Points by Parcel, Clark County, 2023

Parcel	Zoning	Owner	%Slope	Acres Over 7% Slope	Assessed Value	Distance to Freeway	Distance to Highway	Distance to Railroad	Total Points	Tier / Rank
12202010016	2	2	0	0	2	2	2	2	12	2
10313010034	2	2	2	0	2	1	2	1	12	2
17928202001	2	2	2	0	1	1	2	2	12	2
21712401001	0	2	2	0	2	2	2	1	11	2
21712301002	0	2	2	0	2	2	2	1	11	2
21714501001	0	2	2	0	2	2	2	1	11	2
10334010015	2	2	2	0	2	1	1	1	11	2
21712201002	0	2	2	0	2	2	2	1	11	2
21713101011	0	2	2	0	2	2	2	1	11	2
12320000002	1	0	2	0	2	2	2	2	11	2
12319000002	1	0	2	0	2	2	2	1	10	2
12331311001	2	2	1	0	0	1	2	2	10	2
12322301001	2	2	2	0	0	2	1	1	10	2
10310010005	2	2	2	0	2	0	2	0	10	2
17813201016	2	2	2	0	0	2	1	1	10	2
21711701002	0	2	2	0	2	2	1	1	10	2
10304010018	2	2	2	0	2	0	2	0	10	2
13917701001	2	2	2	0	2	0	2	0	10	2
21712301003	0	2	2	0	2	1	2	1	10	2
16134401008	2	2	2	0	0	2	2	0	10	2
10304010019	2	2	2	0	2	0	2	0	10	2
13917801004	2	2	2	0	2	0	2	0	10	2
10303010003	2	2	2	0	2	0	2	0	10	2
12424101006	1	0	2	0	2	2	2	0	9	2
17802801004	2	2	2	0	0	1	2	0	9	2
12313000002	1	0	2	0	2	2	0	2	9	2
08432010015	2	2	2	0	2	0	1	0	9	2
12424601001	0	2	2	0	1	2	2	0	9	2
12328710001	2	2	2	0	0	2	0	1	9	2
12528701005	0	1	2	0	2	2	2	0	9	2
12318000001	1	0	2	0	2	2	2	0	9	2
10310020001	2	2	2	0	2	0	1	0	9	2
12331302001	2	2	0	0	0	2	1	2	9	2
12324000008	1	0	2	0	1	2	2	1	9	2
17623701013	2	2	2	0	0	0	1	2	9	2
13910801001	2	2	1	0	0	1	2	1	9	2
19109401011	1	2	2	0	1	1	2	0	9	2
10310010018	2	2	2	0	2	0	1	0	9	2

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

Parcel	Zoning	Owner	%Slope	Acres Over 7% Slope	Assessed Value	Distance to Freeway	Distance to Highway	Distance to Railroad	Total Points	Tier / Rank
17802801002	2	2	2	0	0	1	2	0	9	2
17704201005	0	2	2	0	0	2	2	1	9	2
16333301015	2	2	2	0	0	1	1	0	8	3
17732701008	0	2	2	0	0	2	2	0	8	3
19116601007	1	2	2	0	1	1	1	0	8	3
12424101004	1	0	2	0	2	2	1	0	8	3
17708701014	0	2	2	0	0	2	2	0	8	3
17727801021	0	2	2	0	2	0	2	0	8	3
17708601008	0	2	2	0	0	2	2	0	8	3
09922000001	1	0	2	0	2	2	1	0	8	3
12328801001	2	2	2	0	0	1	0	1	8	3
12625401020	1	0	2	0	1	2	2	0	8	3
10031000001	1	0	2	0	2	2	1	0	8	3
17732801003	0	2	2	0	0	2	2	0	8	3
12528101008	0	2	2	0	0	2	2	0	8	3
12218000003	1	0	1	0	2	2	1	1	8	3
19108510007	0	2	2	0	0	2	2	0	8	3
17708803014	0	2	2	0	0	2	2	0	8	3
19108510004	0	2	2	0	0	2	2	0	8	3
16134302006	0	2	2	0	0	2	2	0	8	3
09922000002	1	0	2	0	2	2	1	0	8	3
12607301012	1	2	2	0	2	0	1	0	8	3
17729701044	0	2	2	0	0	2	2	0	8	3
17708803019	0	2	2	0	0	2	2	0	8	3
18923401001	1	2	2	0	2	0	1	0	8	3
19116201008	1	2	2	0	1	1	1	0	8	3
12217000004	1	0	0	0	2	2	2	1	8	3
12327301015	2	2	2	0	0	1	0	1	8	3
12519802006	0	0	2	0	2	2	2	0	8	3
17732601004	0	2	2	0	0	2	2	0	8	3
09916000002	1	0	2	0	2	2	0	0	7	3
12531401007	0	0	2	0	1	2	2	0	7	3
09909000003	1	0	2	0	2	2	0	0	7	3
17934410011	0	1	2	0	0	1	2	1	7	3
16115501002	0	1	2	0	2	0	2	0	7	3
13813505001	0	2	2	0	1	0	2	0	7	3
19114115003	2	1	2	0	1	0	1	0	7	3
19104801012	0	2	2	0	0	1	2	0	7	3
17603201010	0	1	2	0	0	2	2	0	7	3

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

Parcel	Zoning	Owner	%Slope	Acres Over 7% Slope	Assessed Value	Distance to Freeway	Distance to Highway	Distance to Railroad	Total Points	Tier / Rank
19120501006	1	0	2	0	2	1	1	0	7	3
19115101002	1	0	2	0	2	0	2	0	7	3
10327010017	2	2	0	0	2	0	0	1	7	3
19116401001	1	0	2	0	2	1	1	0	7	3
16114401001	0	1	2	0	2	0	2	0	7	3
09908000004	1	0	2	0	2	2	0	0	7	3
08433010010	2	2	0	0	2	0	1	0	7	3
13810201002	0	1	2	0	2	1	1	0	7	3
12625601053	1	0	2	0	1	2	1	0	7	3
12436311002	2	2	0	0	0	1	1	1	7	3
17732601005	0	2	2	0	0	2	1	0	7	3
09916000001	1	0	2	0	2	2	0	0	7	3
19110801003	2	2	2	0	0	0	1	0	7	3
19117501010	1	0	2	0	1	1	2	0	7	3
18915000006	1	2	2	0	2	0	0	0	7	3
09923000001	1	0	1	0	2	2	1	0	7	3
09908000002	1	0	1	0	2	2	0	0	6	3
19117801013	1	0	2	0	1	1	1	0	6	3
17933411003	0	1	1	0	1	1	1	1	6	3
19121000002	1	0	2	0	2	1	0	0	6	3
16413301002	0	2	0	0	0	2	2	0	6	3
17627601011	0	0	2	0	1	0	2	1	6	3
17612401029	2	0	0	0	0	0	2	2	6	3
19103201005	0	2	2	0	0	0	2	0	6	3
12218000002	1	0	0	0	2	2	0	1	6	3
12625501006	1	0	1	0	1	1	2	0	6	3
16222401004	0	1	2	0	0	1	2	0	6	3
12603501007	1	0	2	0	2	0	1	0	6	3
16135501002	0	1	2	0	1	0	2	0	6	3
12511201001	1	0	2	0	1	0	2	0	6	3
16328301003	0	1	1	0	2	1	1	0	6	3
19116101005	1	0	2	0	1	1	1	0	6	3
12411000001	1	0	2	0	2	1	0	0	6	3
16222401003	0	1	2	0	0	1	2	0	6	3
12219000002	1	0	0	0	2	1	2	0	6	3
12519301006	0	0	2	0	1	2	1	0	6	3
12413101001	1	0	2	0	2	1	0	0	6	3
12410000001	1	0	1	0	2	1	0	0	5	3
19111101004	1	0	0	0	2	0	2	0	5	3

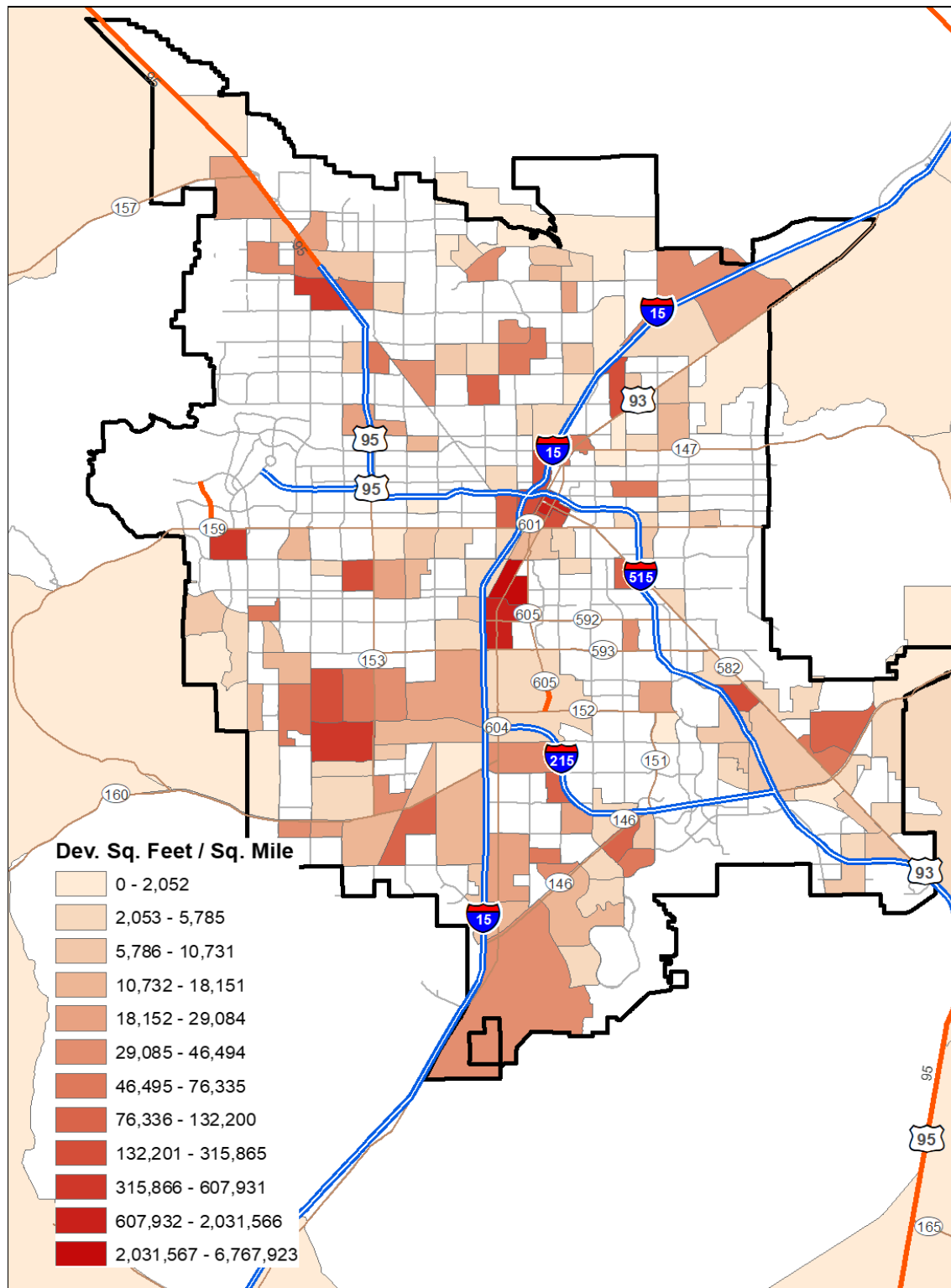
## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

Parcel	Zoning	Owner	%Slope	Acres Over 7% Slope	Assessed Value	Distance to Freeway	Distance to Highway	Distance to Railroad	Total Points	Tier / Rank
12511101001	1	0	2	0	1	0	1	0	5	3
12313000003	1	0	0	0	1	2	0	1	5	3
16031201001	0	1	2	0	1	0	1	0	5	3
19114314001	2	2	0	0	1	0	0	0	5	3
12611000005	1	0	0	0	2	0	2	0	5	3
17916803005	0	0	2	0	2	0	1	0	5	3
12610201003	1	0	0	0	2	0	2	0	5	3
19121000001	0	0	2	0	2	1	0	0	5	3
14014101003	0	2	0	0	1	0	2	0	5	3
19116601008	1	0	2	0	1	0	1	0	5	3
12603501005	1	0	2	0	2	0	0	0	5	3
12528201006	0	0	2	0	0	1	2	0	5	3
14015101002	0	1	2	0	2	0	0	0	5	3
12518601031	1	0	2	0	0	1	1	0	5	3
16316301002	0	0	2	0	0	0	2	0	4	4
18911101002	1	0	0	0	0	2	0	1	4	4
19115811004	0	2	2	0	0	0	0	0	4	4
16031501005	0	1	2	0	1	0	0	0	4	4
19115811006	0	2	2	0	0	0	0	0	4	4
18922000002	1	0	2	0	0	0	1	0	4	4
16031301003	0	1	2	0	1	0	0	0	4	4
12614501001	0	0	0	0	1	0	2	0	3	4
16102301004	0	0	0	0	2	0	1	0	3	4
16032501004	0	1	0	0	1	0	0	0	2	4
19122101001	0	0	0	0	2	0	0	0	2	4
19123111006	0	2	0	0	0	0	0	0	2	4

Sources: RCG, SNWA, Assessor

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

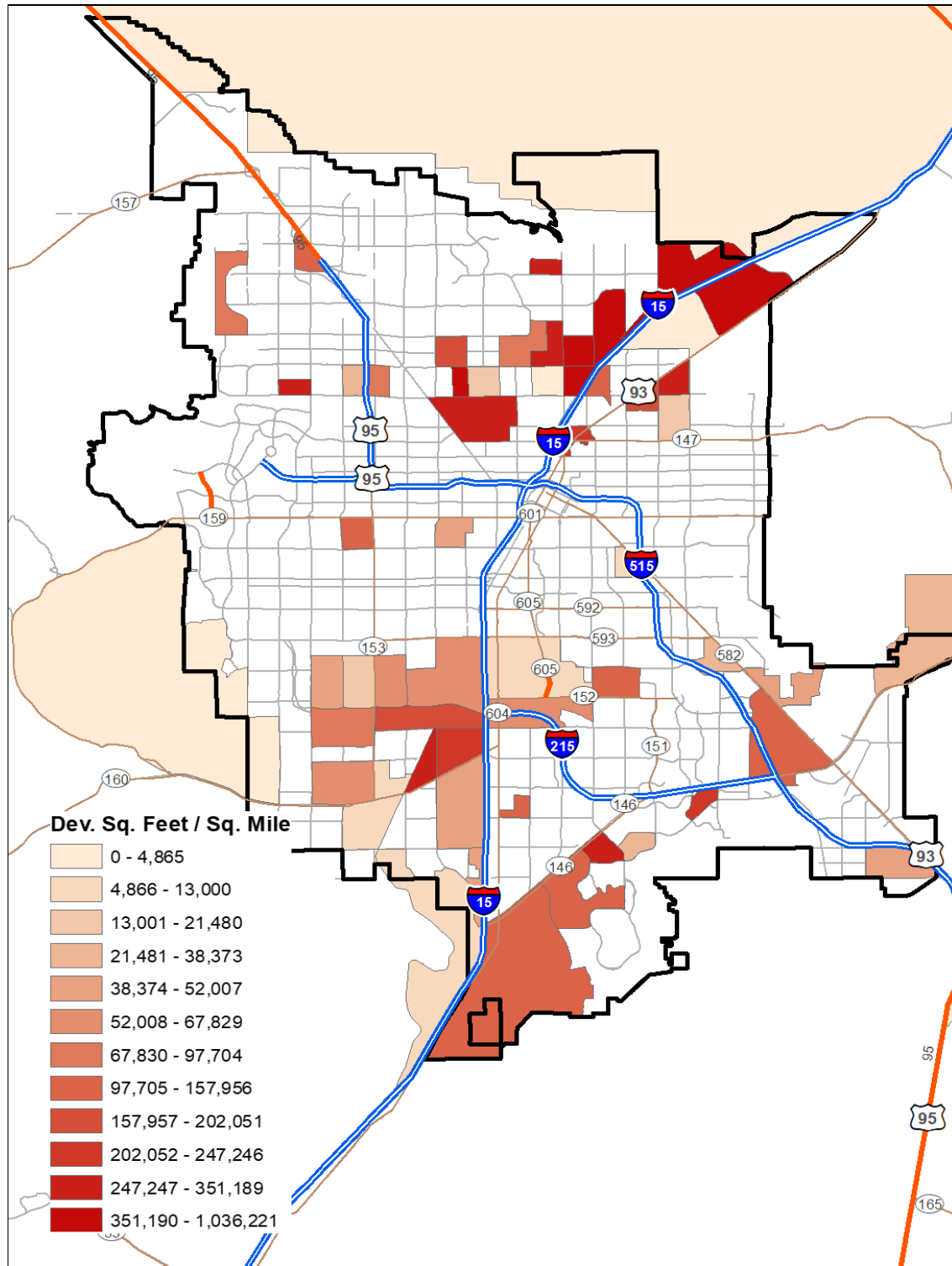
Figure A-4: Commercial Development, Aggregate Building Square Feet per Square Mile, Las Vegas Valley, 2020 to 2023



Source: Clark County Assessor

## SOUTHERN NEVADA EMPLOYMENT LAND ANALYSIS

Figure A-5: Industrial Development, Aggregate Building Square Feet per Square Mile, Las Vegas Valley, 2020 to 2023



Source: Clark County Assessor

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