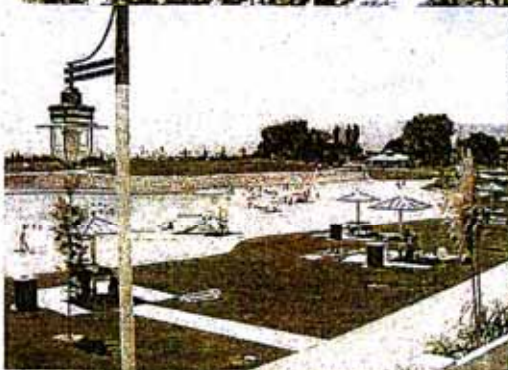
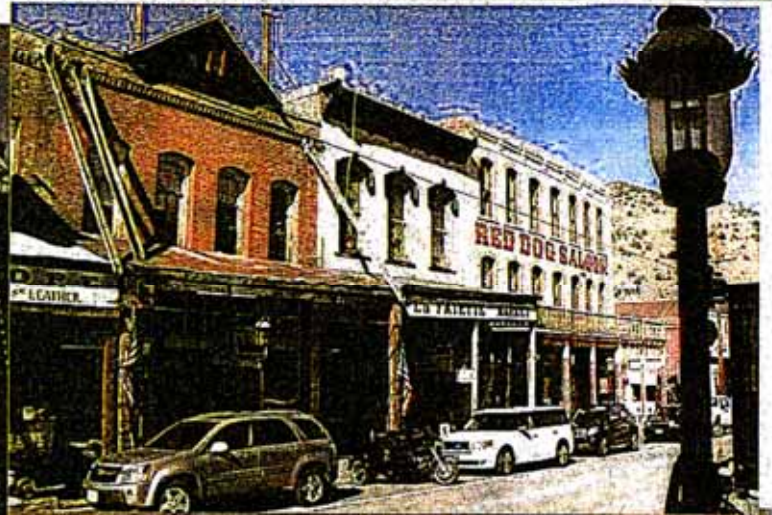
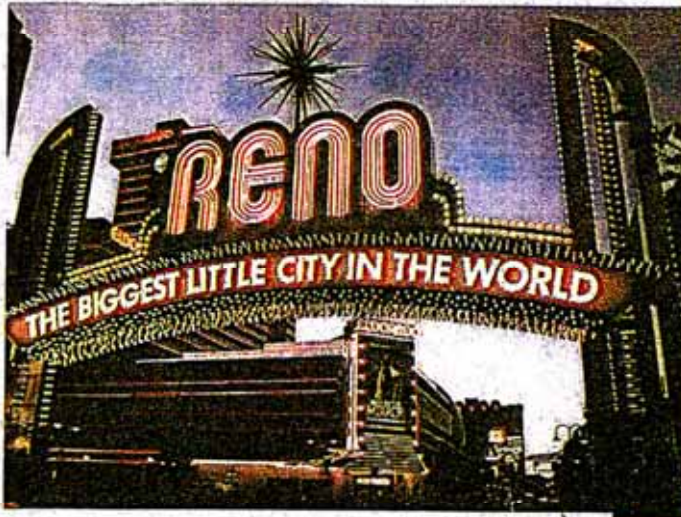


NORTHERN NEVADA REGIONAL GROWTH STUDY 2015-2019



Volume I: A Forecast of Northern Nevada's Employment, Population, Households & Associated Tax Revenues

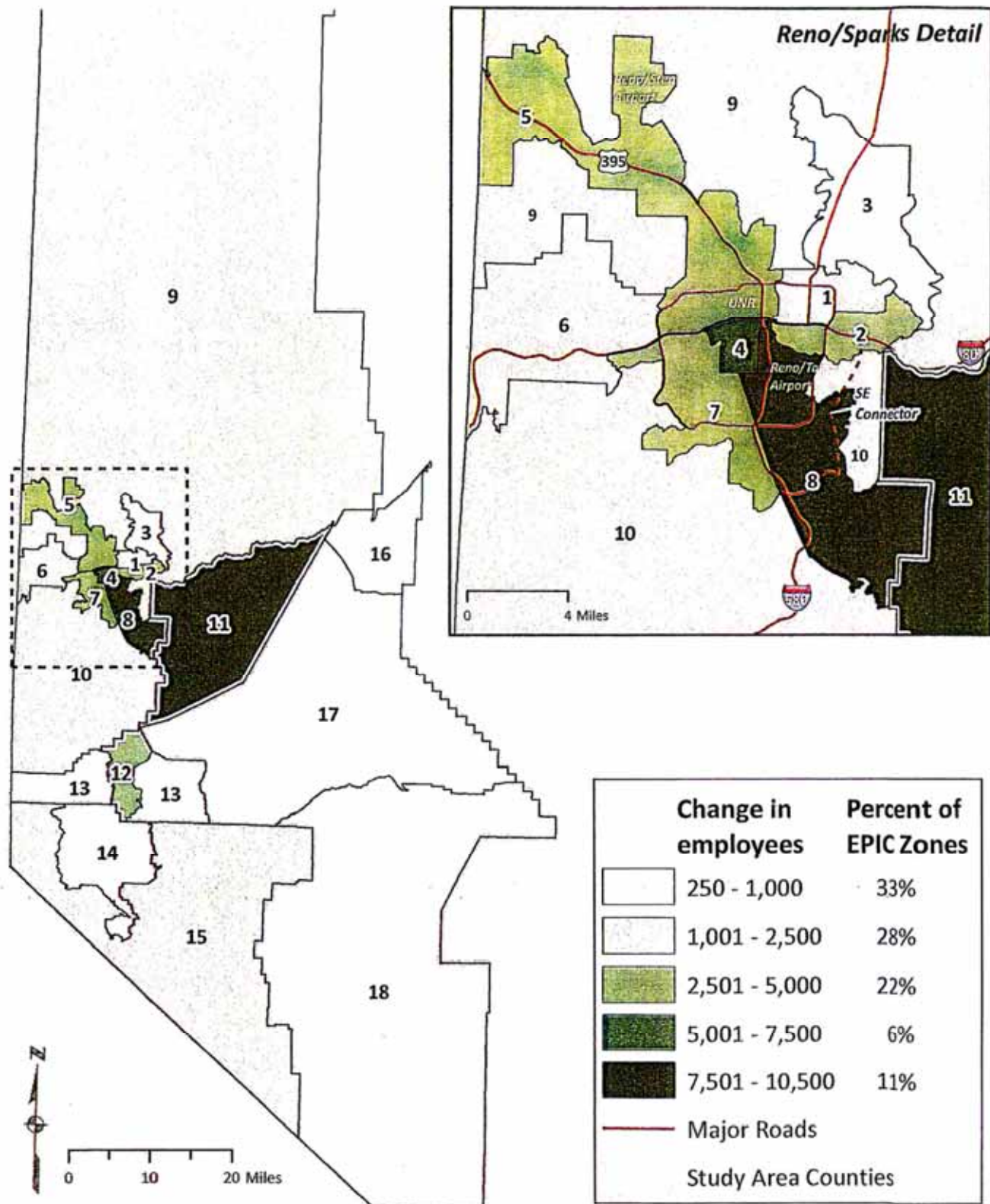
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ECONOMICS

**Exhibit III-4: Scenario B Study Area & County
Employment, Population & Household Growth, 5-Year Study Period***

| Employment | Start of Period | End of Period | Total Growth | % Change | Avg. Growth |
|-------------------|----------------------------|--------------------------|-------------------------|-----------------|--------------------|
| Douglas | 29,741 | 32,322 | 2,581 | 8.7% | 1.7% |
| Lyon | 17,230 | 18,802 | 1,572 | 9.1% | 1.8% |
| Storey | 4,813 | 15,315 | 10,502 | 218.2% | 43.6% |
| Washoe | 258,158 | 292,899 | 34,741 | 13.5% | 2.7% |
| Carson | 38,557 | 41,531 | 2,974 | 7.7% | 1.5% |
| Total | 348,499 | 400,869 | 52,370 | 15.0% | 3.0% |
| Population | Start of Period | End of Period | Total Growth | % Change | Avg. Growth |
| Douglas | 46,855 | 46,520 | -335 | -0.7% | -0.1% |
| Lyon | 51,918 | 55,314 | 3,396 | 6.5% | 1.3% |
| Storey | 3,947 | 4,041 | 94 | 2.4% | 0.5% |
| Washoe | 439,004 | 475,512 | 36,508 | 8.3% | 1.7% |
| Carson | 54,183 | 56,916 | 2,733 | 5.0% | 1.0% |
| Total | 595,907 | 638,302 | 42,395 | 7.1% | 1.4% |
| Households | Start of Period | End of Period | Total Growth | % Change | Avg. Growth |
| Douglas | 18,553 | 18,420 | -133 | -0.7% | -0.1% |
| Lyon | 20,558 | 21,902 | 1,345 | 6.5% | 1.3% |
| Storey | 1,563 | 1,600 | 37 | 2.4% | 0.5% |
| Washoe | 173,830 | 188,285 | 14,456 | 8.3% | 1.7% |
| Carson | 21,455 | 22,537 | 1,082 | 5.0% | 1.0% |
| Total | 235,958 | 252,745 | 16,787 | 7.1% | 1.4% |

Source: EPIC Committee, Nevada State Demographer. *The Study Period covers 2015, 2016, 2017, 2018 & 2019.

Exhibit III-5: Scenario B Study Area Employment Growth, 5-Year Study Period*



Source: EPIC Committee. *The Study Period covers 2015, 2016, 2017, 2018 & 2019.

Exhibit III-6: Scenario B Study Area Employment Growth, by Zone, 5-Year Study Period*

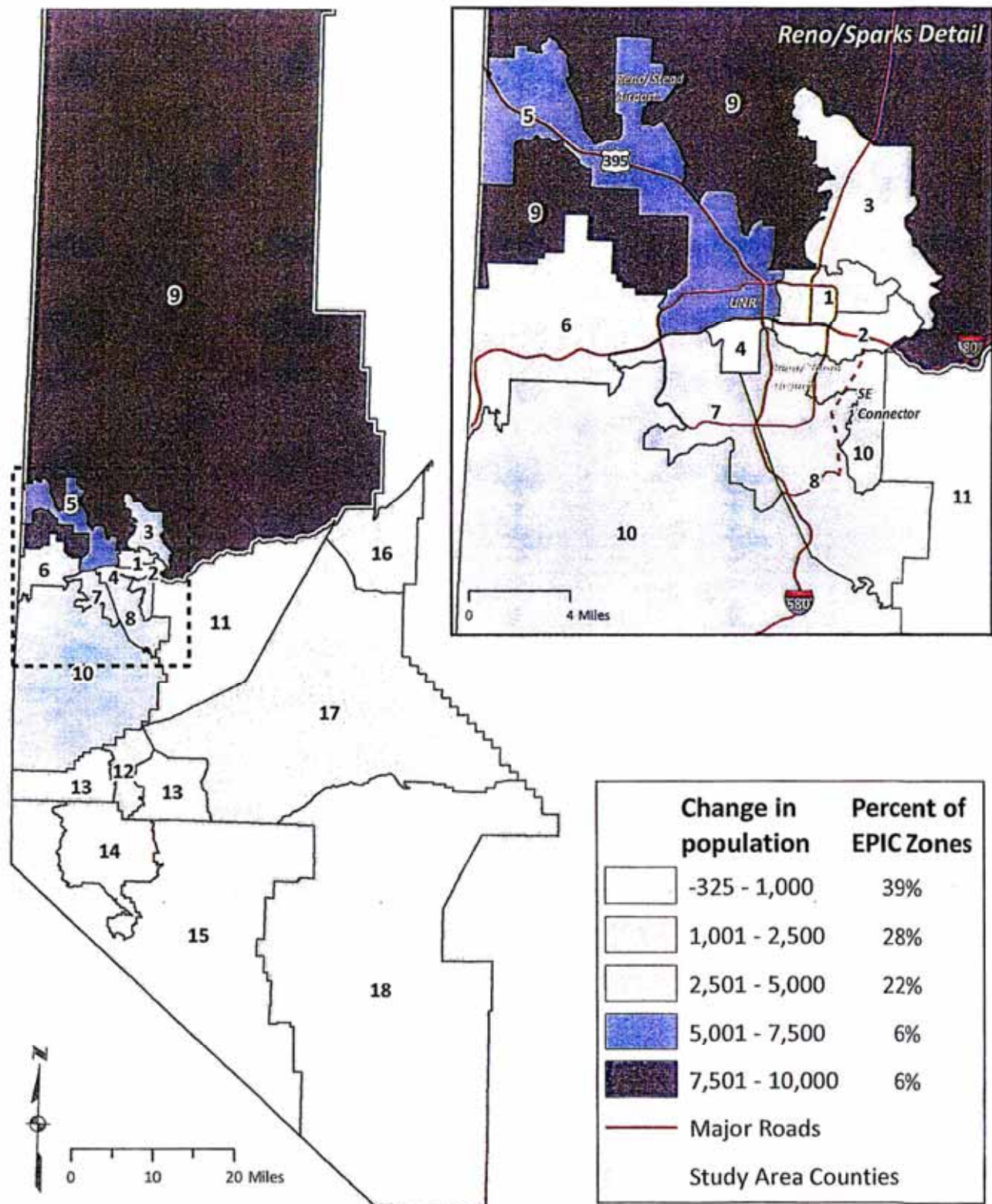
| Zone # | Epic Zone | Start of Period | End of Period | Emp. Growth | Emp. % Growth |
|--------------|---------------------|-----------------|----------------|---------------|---------------|
| 1 | Sparks | 12,806 | 14,167 | 1,361 | 10.6% |
| 2 | Sparks Industrial | 33,046 | 37,474 | 4,428 | 13.4% |
| 3 | Sparks Suburban | 6,039 | 6,849 | 810 | 13.4% |
| 4 | Downtown Reno | 51,008 | 56,322 | 5,313 | 10.4% |
| 5 | North Reno | 25,982 | 30,914 | 4,932 | 19.0% |
| 6 | West Reno | 8,010 | 9,190 | 1,180 | 14.7% |
| 7 | Southwest Reno | 25,076 | 27,949 | 2,873 | 11.5% |
| 8 | Southeast Reno | 68,514 | 78,831 | 10,318 | 15.1% |
| 9 | North Washoe | 7,357 | 8,440 | 1,083 | 14.7% |
| 10 | South Washoe | 20,320 | 22,763 | 2,444 | 12.0% |
| 11 | Storey | 4,813 | 15,315 | 10,502 | 218.2% |
| 12 | Carson City | 35,185 | 37,907 | 2,723 | 7.7% |
| 13 | Carson City - Rural | 3,372 | 3,623 | 251 | 7.4% |
| 14 | Douglas | 12,013 | 12,542 | 529 | 4.4% |
| 15 | Douglas - Rural | 17,728 | 19,780 | 2,052 | 11.6% |
| 16 | Fernley Area | 6,262 | 7,066 | 803 | 12.8% |
| 17 | Central Lyon | 6,378 | 6,856 | 477 | 7.5% |
| 18 | South Lyon | 4,589 | 4,880 | 291 | 6.3% |
| Total | Study Area | 348,499 | 400,869 | 52,370 | 15.0% |

Source: EPIC Committee. *The Study Period covers 2015, 2016, 2017, 2018 & 2019.

- EPIC Zones 8 and 11 (Southeast Reno and Storey County) are projected to see the most job growth between 2015 and 2019 (10,318 and 10,502 jobs, respectively).
- EPIC Zone 2 (Sparks Industrial) and EPIC Zone 5 (North Reno), which also encompass industrial land, are expected to see significant job growth, as well (4,428 and 4,932 jobs, respectively). In Scenario B, Tesla's Gigafactory does not ramp-up to full operations as quickly as originally planned.
- The smallest amounts of job growth in the Study Area are forecasted to occur in EPIC Zone 13 (Carson City-Rural) and EPIC Zone 18 (South Lyon), which are projected to see just 251 and 291 new jobs.
- Meanwhile, EPIC Zone 4 (Downtown Reno) is expected to experience strong (10 percent or 5,313 jobs) growth.

For a more in-depth view of employment data at the census tract level, see the *Volume II: Northern Atlas*.

Exhibit III-7: Scenario B Study Area Population Growth, 5-Year Study Period*



Source: EPIC Committee. *The Study Period covers 2015, 2016, 2017, 2018 & 2019.

Exhibit III-8: Scenario B Study Area Population Growth, by Zone, 5-Year Study Period*

| Zone # | Epic Zone | Start of Period | End of Period | Pop. Growth | Pop. % Growth |
|--------------|---------------------|-----------------|----------------|---------------|---------------|
| 1 | Sparks | 55,851 | 58,236 | 2,385 | 4.3% |
| 2 | Sparks Industrial | 4,234 | 4,453 | 219 | 5.2% |
| 3 | Sparks Suburban | 33,157 | 37,510 | 4,352 | 13.1% |
| 4 | Downtown Reno | 21,330 | 22,131 | 800 | 3.8% |
| 5 | North Reno | 85,642 | 91,887 | 6,245 | 7.3% |
| 6 | West Reno | 30,447 | 32,867 | 2,420 | 7.9% |
| 7 | Southwest Reno | 43,865 | 46,979 | 3,114 | 7.1% |
| 8 | Southeast Reno | 57,610 | 62,066 | 4,456 | 7.7% |
| 9 | North Washoe | 61,781 | 69,835 | 8,054 | 13.0% |
| 10 | South Washoe | 45,086 | 49,548 | 4,462 | 9.9% |
| 11 | Storey | 3,947 | 4,041 | 94 | 2.4% |
| 12 | Carson City | 46,291 | 48,414 | 2,123 | 4.6% |
| 13 | Carson City - Rural | 7,892 | 8,501 | 609 | 7.7% |
| 14 | Douglas | 33,748 | 33,739 | -10 | 0.0% |
| 15 | Douglas - Rural | 13,107 | 12,781 | -325 | -2.5% |
| 16 | Fernley Area | 19,303 | 20,642 | 1,338 | 6.9% |
| 17 | Central Lyon | 22,867 | 24,504 | 1,637 | 7.2% |
| 18 | South Lyon | 9,748 | 10,168 | 421 | 4.3% |
| Total | Study Area | 595,907 | 638,302 | 42,395 | 7.1% |

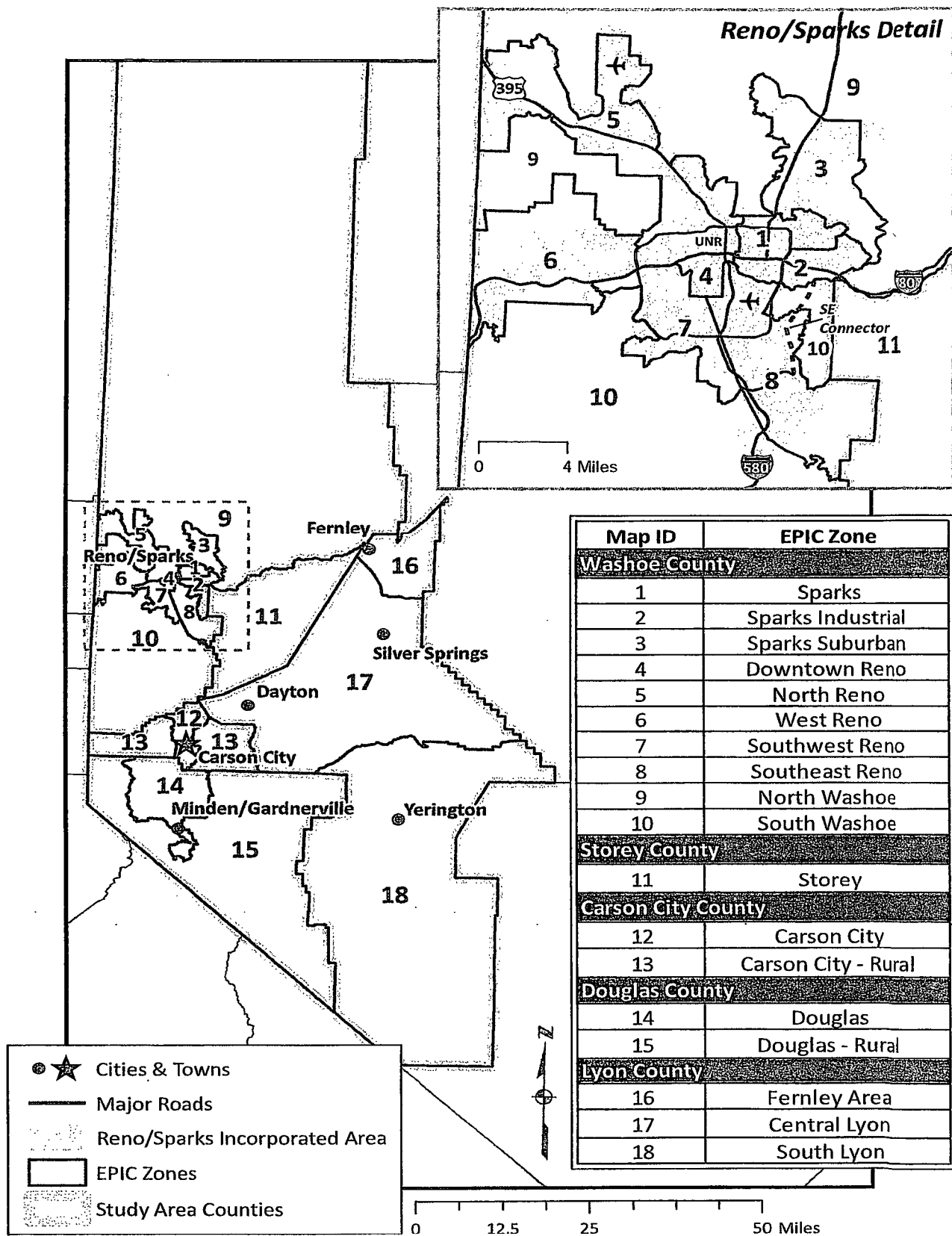
Source: EPIC Committee. *The Study Period covers 2015, 2016, 2017, 2018 & 2019.

- EPIC Zone 5 (North Reno) and EPIC Zone 9 (North Washoe) are forecasted to experience the highest population growth (6,245 and 8,054 persons, respectively) through 2019 compared to the other EPIC Zones under Scenario B.
- EPIC Zone 10 (South Washoe) is projected to expand by 4,462 persons during the study period.
- EPIC Zone 3 (Suburban Sparks) is expected to gain 4,352 persons.

It is anticipated that redevelopment and adaptive reuse will play a major role in the evolution of the Reno-Sparks MSA's urban core during the study period. Two of these core zones, EPIC Zone 1 (Sparks) and EPIC Zone 4 (Downtown Reno) are projected to see population increases of approximately 2,385 and 800 persons, respectively.

EPIC Zone 14 (Douglas) and EPIC Zone 15 (Douglas-Rural) are expected to see negative growth through 2019 under Scenario B, with -10 and -325 persons, respectively. These zones are forecasted to be the only ones to experience a population loss over the study period in Scenario B.

Exhibit III-9: Study Area EPIC Zones Index Map, 2015



Source: EPIC Committee

Effects on Housing Demand & Supply

In analyzing the population and household forecasts above, we can infer the effects on the demand and supply for rental and for-sale housing in the Study Area during the study period.

A household, by definition, occupies one housing unit. It is also important to note that the number of persons in a household varies in size (based on the type and size of units) with a weighted average for the Study Area of 2.53 persons in 2014, according to the Nevada State Demographer. RCG has assumed that this estimate will not change significantly during the five-year study period.

Households of job migrants can be of a different average size than households of local workers. People are born and die, and more jobs can lead to greater household formations. Still, over the course of the study period (2015-2019), there is unlikely to be a significantly large shift in the average household size at the region level. Therefore, the expected change in the number of households in the Study Area can be viewed as generally representing the change in the number of occupied housing units.

As housing demand increases, developers will ramp-up construction over time. However, with a vacancy rate (roughly 12 percent as of 2013, based on household and total inventory data from the U.S. Census Bureau) that remains relatively high compared to historical averages, demand in the early years of the study period will likely tend toward absorbing the existing vacant housing stock rather than on the need for new homes. As the residential vacancy rate moves toward a seven- to 10-percent equilibrium level, demand for rental and for-sale housing will shift toward new dwelling units.

We would also like to note that the information regarding housing supply and demand in this report will be expanded upon in the upcoming Residential Housing Study being undertaken by the Truckee Meadows Regional Planning Agency, as part of their shared work program with the Washoe County School District. This study will provide a detailed analysis of housing supply in the Truckee Meadows region, as well as demand projections for the next twenty years, a discussion of the types of housing that will be needed in the region during that period and the fiscal impacts of various residential development scenarios.

The household forecasts developed in this report for the Study Area are illustrated in Exhibit III-10. Exhibit III-11 is a map showing areas in the EPIC Zones where future residential development is likely to occur.

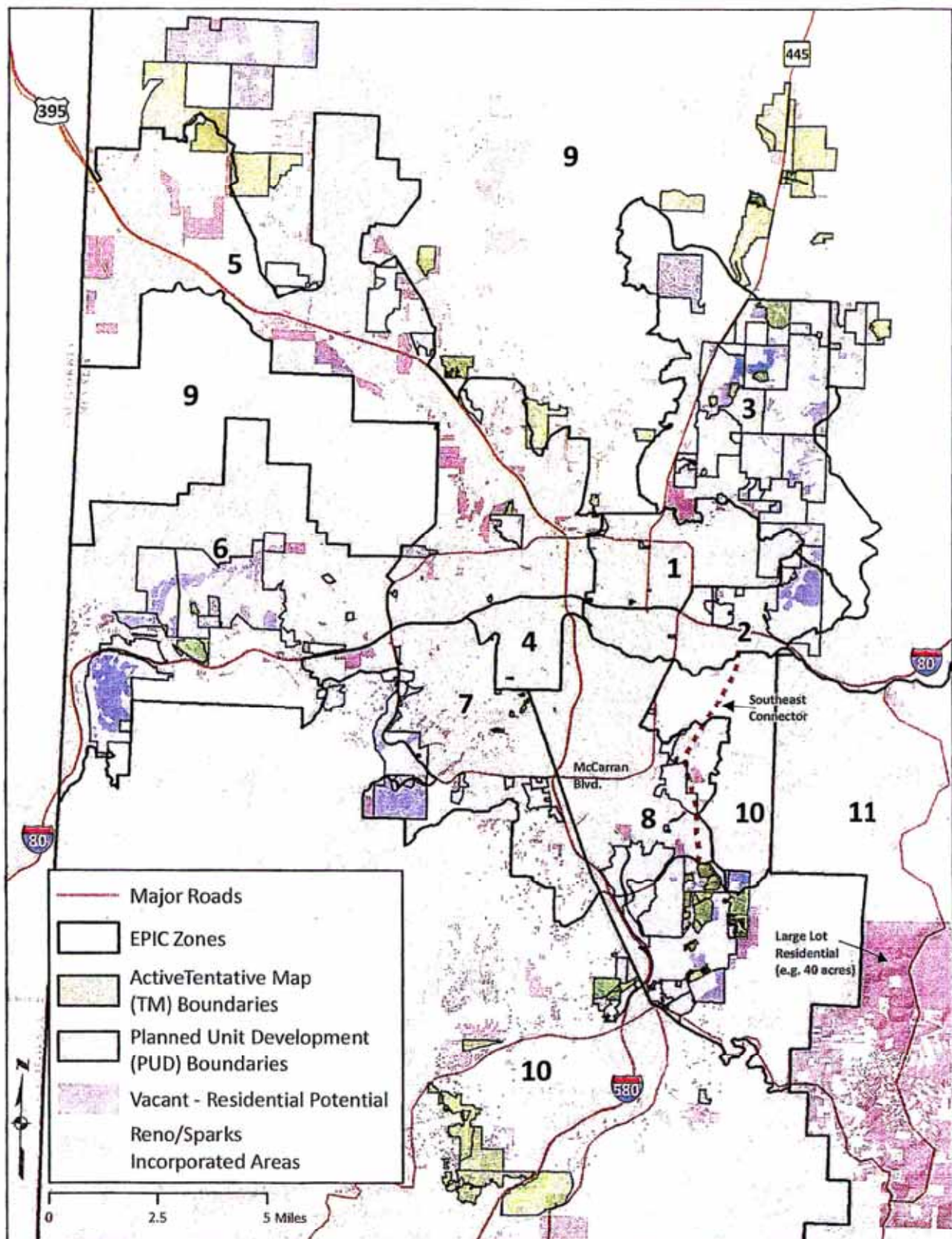
Exhibit III-10: Scenario B Study Area Household Growth, by Zone, 5-Year Study Period*

| Zone # | Epic Zone | Start of Period | End of Period | HH Growth | HH % Growth |
|---------------|---------------------|----------------------------|--------------------------|----------------------|------------------------|
| 1 | Sparks | 22,115 | 23,059 | 944 | 4.3% |
| 2 | Sparks Industrial | 1,677 | 1,763 | 87 | 5.2% |
| 3 | Sparks Suburban | 13,129 | 14,853 | 1,723 | 13.1% |
| 4 | Downtown Reno | 8,446 | 8,763 | 317 | 3.8% |
| 5 | North Reno | 33,911 | 36,384 | 2,473 | 7.3% |
| 6 | West Reno | 12,056 | 13,014 | 958 | 7.9% |
| 7 | Southwest Reno | 17,369 | 18,602 | 1,233 | 7.1% |
| 8 | Southeast Reno | 22,811 | 24,576 | 1,765 | 7.7% |
| 9 | North Washoe | 24,463 | 27,652 | 3,189 | 13.0% |
| 10 | South Washoe | 17,853 | 19,619 | 1,767 | 9.9% |
| 11 | Storey | 1,563 | 1,600 | 37 | 2.4% |
| 12 | Carson City | 18,330 | 19,170 | 841 | 4.6% |
| 13 | Carson City - Rural | 3,125 | 3,366 | 241 | 7.7% |
| 14 | Douglas | 13,363 | 13,359 | -4 | 0.0% |
| 15 | Douglas - Rural | 5,190 | 5,061 | -129 | -2.5% |
| 16 | Fernley Area | 7,643 | 8,173 | 530 | 6.9% |
| 17 | Central Lyon | 9,054 | 9,703 | 648 | 7.2% |
| 18 | South Lyon | 3,860 | 4,026 | 167 | 4.3% |
| Total | Study Area | 235,958 | 252,745 | 16,787 | 7.1% |

Source: EPIC Committee. *The Study Period covers 2015, 2016, 2017, 2018 & 2019.

- EPIC Zones with over 10 percent forecasted household growth are likely to rely on new home construction sooner rather than later. EPIC Zone 3 (Sparks Suburban) and EPIC Zone 9 (North Washoe) should see this type of housing demand sooner than some other EPIC Zones. Sparks Suburban is projected to grow by 1,723 (13.1%) households, reaching 14,853 and North Washoe is expected to grow by 3,189 (13.0%) households, reaching 27,652 households.
- EPIC Zone 5 (North Reno), EPIC Zone 8 (Southeast Reno) and EPIC Zone 10 (South Washoe) are projected to experience significant household growth, but will not quite reach 10 percent. North Reno should grow by 2,473 (7.3%) new households, Southeast Reno should see 1,765 (7.7%) new households and South Washoe should expect 1,767 (9.9%) new households.
- EPIC Zone 7 (Southwest Reno) is expected to also experience a large increase in the number of households. It should see growth of 1,233 households, or 7.1 percent.
- Douglas County may not fare as well early on. EPIC Zone 14 (Douglas) is projected to lose four households, basically unchanged. However, as mentioned above, any downward trend should reverse as the Study Area continues to grow and prosper. EPIC Zone 15 (Douglas-Rural) is forecasted to lose 129 households between 2015 and 2019.

Exhibit III-11: Washoe County Residential Potential Map, 2015



Source: EPIC Committee. Note: Areas colored purple are considered to have potential for additional residential development.

IV. PUBLIC REVENUE ANALYSIS

The EPIC Team also developed Study Area forecasts (2015-2019) for a select group of taxes under the four scenarios: A, B, B2 and C. However, as noted previously, only Scenario B is detailed herein. (Scenarios A and C are detailed in the accompanying *Volume II: Northern Nevada Atlas*, while Scenario B2 is detailed both in Appendix B and the Atlas.) These taxes include:

1. Real property tax ("Property Tax"),
2. Sales and use tax ("Sales Tax"),
3. Modified business tax ("MBT") and
4. Motor vehicle fuel tax ("Gas Tax").

The specific governmental entities receiving the forecasted tax revenues include:

- Study Area school districts,
- Counties and other local governments,
- State of Nevada and
- County regional transportation commissions ("RTC").

Real property tax collections, as well as sales and use tax collections, were allocated to school districts, county and local governments and the State of Nevada. The projected MBT collections were allocated only to the State, per state law. Gas tax collections, on the other hand, were allocated to regional transportation commissions and county and local governments.

The tax revenue forecasts are directly associated with the anticipated socioeconomic growth discussed above for the four Scenarios.

It should be noted that the Tesla Gigafactory will not contribute to property tax, sales tax or the MBT collections for the duration of the five-year study period due to tax incentives passed by the Nevada Legislature in September 2014. However, Tesla workers will contribute their own spending to property and sales tax revenues. Also, jobs projected to be indirectly created by Tesla, along with those due to the Study Area's natural growth, will be taxed normally. Accordingly, they will contribute to the projected collections of the four selected taxes.

Property, Sales & MBT Taxes

RCG first focused on the property, sales and MBT taxes. These taxes are discussed separately from the gas tax, because they are distributed to different entities.

The tax revenues discussed herein (see Exhibit IV-1) are projected to grow throughout the 2015-19 study period. These increases are related to rises in direct and indirect job, as well as population growth, because of the Tesla Gigafactory and the general growth of the Study Area economy. General growth is defined as total growth minus growth due to Tesla jobs. It is somewhat different than "natural growth" in this general growth includes non-Tesla growth associated with the clustering effect.

These taxes will be part of the funding required to address the Study Area's socioeconomic and physical infrastructure growth-related needs under each growth scenario. Thoughtful and proactive planning will be key to ensuring responsible growth in the region for the remainder of the decade.

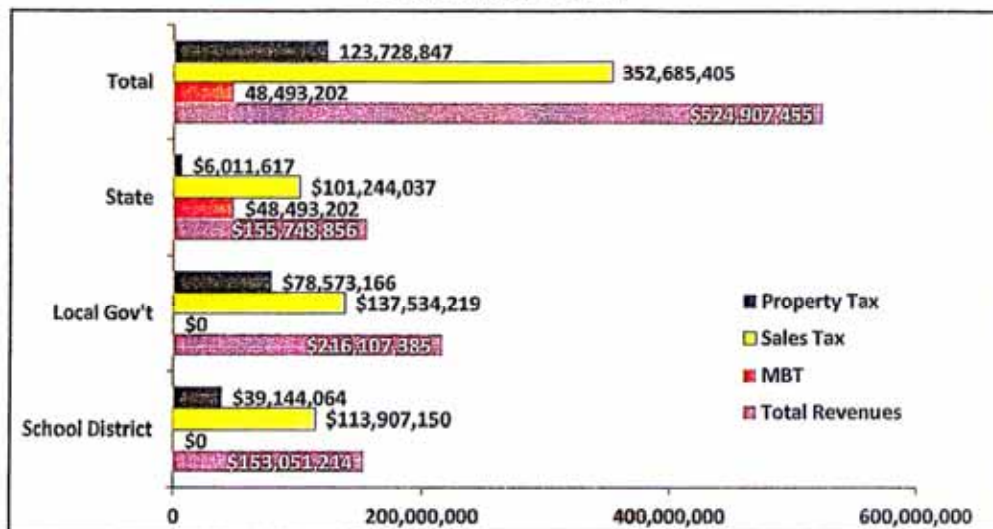
The following charts illustrate the projected total collections for the four selected taxes under Scenario B for the five-year study period (for individual study period years, see Exhibit IV-2 and the companion Atlas).

The MBT and sales tax revenues are based on projected new employment. Conversely, property tax revenues are based on new projected residents.

In Exhibit IV-2, percent changes in revenues are presented for total collections, relative to the actual and estimated collections for Fiscal Year 2014 as reported by the Nevada Department of Taxation.

Exhibit IV-1 shows tax revenue collections under Scenario B (percentages may not add to 100 due to rounding).

**Exhibit IV-1: Scenario B Study Area Projected Tax Revenues,
5-Year Study Period***



Sources: Nevada State Demographer, Woods & Poole. *The Study Period covers 2015, 2016, 2017, 2018 & 2019.

- \$123,729,000 in property tax collections are projected under Scenario B over the five-year study period for the Study Area.
- \$352,685,000 in total sales tax collections are forecasted.
- \$48,493,000 in MBT tax collections are projected.
- These new tax revenues will result in an estimate of \$524,907,000 in total collections for these three selected taxes by the end of 2019 due to growth.
- Of that total, the State of Nevada is expected to receive \$155,749,000, or 30 percent.
- School districts are projected to take in \$153,051,000 (29 percent) of total growth-related revenues.
- Subject Area county and local governments are forecasted to get the largest share of the total new revenues. This share accounts for 41 percent of the total, or \$216,107,000.
- The largest share of State revenues is expected to come from the sales tax, accounting for \$101,244,000 of its \$155,749,000 (65 percent). The MBT is projected to make up 31 percent of its total, while property taxes are forecasted to bring in just four percent of new state revenues.
- County and local governments are expected to collect 64 percent of their total growth-related revenues from the sales tax, while the other 36 percent is projected to come from the property tax revenues.
- By end-of-year 2019, Study Area school districts are forecasted to receive the second largest share of property taxes, accounting for \$39,144,000. This makes up 26 percent of the school districts revenue under Scenario B. Sales taxes account for the remaining 74 percent of revenues from growth.

Exhibit IV-2: Scenario B Tax Revenue Growth, by Type, 5-Year Study Period*

| Property Tax | 2014 Base | 2015 | 2016 | 2017 | 2018 | 2019 | Total | Total/Base % Change |
|---------------------|------------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------------|
| School District | \$196,698,928 | \$2,075,537 | \$4,530,280 | \$7,639,208 | \$10,905,055 | \$13,993,984 | \$39,144,064 | 19.9% |
| Local Gov't | \$394,830,173 | \$4,166,188 | \$9,093,549 | \$15,334,043 | \$21,889,517 | \$28,089,870 | \$78,573,166 | 19.9% |
| State | \$30,208,375 | \$318,754 | \$695,746 | \$1,173,204 | \$1,674,762 | \$2,149,150 | \$6,011,617 | 19.9% |
| Sales Tax | 2014 Base | 2015 | 2016 | 2017 | 2018 | 2019 | Total | Total/Base % Change |
| School District | \$178,132,400 | \$7,234,244 | \$15,090,307 | \$24,950,268 | \$32,107,217 | \$34,525,113 | \$113,907,150 | 63.9% |
| Local Gov't | \$215,081,323 | \$8,734,800 | \$18,220,398 | \$30,125,551 | \$38,767,023 | \$41,686,448 | \$137,534,219 | 63.9% |
| State | \$934,947,758 | \$6,430,010 | \$13,412,710 | \$22,176,535 | \$28,537,843 | \$30,686,940 | \$101,244,037 | 10.8% |
| MBT | 2014 Base | 2015 | 2016 | 2017 | 2018 | 2019 | Total | Total/Base % Change |
| State | \$384,991,919 | \$3,278,335 | \$6,755,874 | \$10,519,602 | \$13,381,557 | \$14,557,835 | \$48,493,202 | 12.6% |
| Total | 2014 Base | 2015 | 2016 | 2017 | 2018 | 2019 | Total | Total/Base % Change |
| School District | \$374,831,328 | \$9,309,781 | \$19,620,587 | \$32,589,476 | \$43,012,272 | \$48,519,097 | \$153,051,214 | 40.8% |
| Local Gov't | \$609,911,496 | \$12,900,987 | \$27,313,947 | \$45,459,593 | \$60,656,540 | \$69,776,317 | \$216,107,385 | 35.4% |
| State | \$1,350,148,052 | \$10,027,099 | \$20,864,330 | \$33,869,341 | \$43,594,162 | \$47,393,924 | \$155,748,856 | 11.5% |
| All Monies | \$2,334,890,876 | \$32,237,868 | \$67,798,864 | \$111,918,410 | \$147,262,974 | \$165,689,339 | \$524,907,455 | 22.5% |

Sources: EPIC Committee, Nevada Department of Taxation. * The Study Period covers 2015, 2016, 2017, 2018 & 2019.

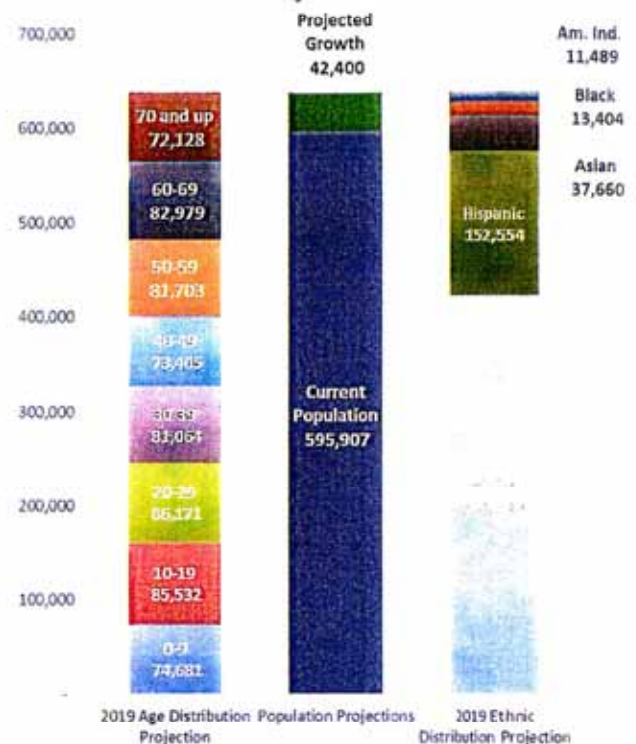
EPIC STUDY OVERVIEW

The Epic study is a regional socioeconomic growth study that covers Washoe, Storey, Carson City, Douglas, and Lyon counties for years 2015 to 2019. This summary sheet presents an overview of Scenario B, which is a mid-growth scenario that has been adopted as the most likely scenario of growth for the region.

The region's business recruitment and retention strategy, location and transportation advantages, and business climate have stimulated regional growth with the attraction of new industries. Initial investments into the region from companies like Tesla and Switch will spur a "clustering effect" that will attract new like-kind businesses to take up residence in the region and further attribute to growth. More businesses will move into the area to take advantage of economies of agglomeration, or new efficiencies that can be created vertically and horizontally in the value chain through geographic location. An increasingly diverse and more technologically advanced economy will attribute to the shaping of our community in driving policy to address the needs of new infrastructure and an educated, skilled labor force. Aging and ethnic shifts will generate new beliefs and concerns regarding housing demand, health care needs and lifestyle options. To highlight a few:



2019 Population & Demographic Projections



Employment, Populations, and Household Growth by County

| County | Employment Growth | Average Growth Rate 2015-2019 | Population Growth | Average Growth Rate 2015-2019 | Household Growth | Average Growth Rate 2015-2019 |
|---|-------------------|---|-------------------|---|------------------|-------------------------------|
| Douglas | 2,581.00 | 1.70% | -335 | -0.10% | -133 | -0.10% |
| Lyon | 1,572.00 | 1.80% | 3,396 | 1.30% | 1,345 | 1.30% |
| Storey | 10,502.00 | 43.60% | 94 | 0.50% | 37 | 0.50% |
| Washoe | 34,741.00 | 2.70% | 36,508 | 1.70% | 14,456 | 1.70% |
| Carson | 2,974.00 | 1.50% | 2,733 | 0.10% | 1,082 | 1.00% |
| Total | 52,370.00 | 3.00% | 42,395 | 1.40% | 16,787 | 1.40% |
| 50% of Job Growth will occur in Downtown Reno, North Reno, Southeast Reno, and Storey County. | | 66% of population growth will occur in Sparks Suburban, North Reno, Southeast Reno, North Washoe, and South Washoe. | | North Washoe and Sparks suburban will experience house hold growth of around 13% and will likely rely on new home construction sooner rather than later. Reno/Sparks MSA's will see redevelopment and adaptive reuse. | | |

Projected Tax Revenues

| | Property Tax | Sales Tax | MBT/Gas | Total Revenues |
|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|
| State | \$ 6,011,617 | \$ 101,244,037 | \$ 48,493,202 MBT | \$ 155,748,856 |
| Local Gov't | \$ 78,573,166 | \$ 137,534,219 | \$ 54,109,354 Gas | \$ 270,216,739 |
| School District | \$ 39,144,064 | \$ 113,907,150 | | \$ 153,051,214 |
| Total | \$ 123,728,847 | \$ 352,685,405 | \$ 102,602,556 | \$ 579,016,808 |