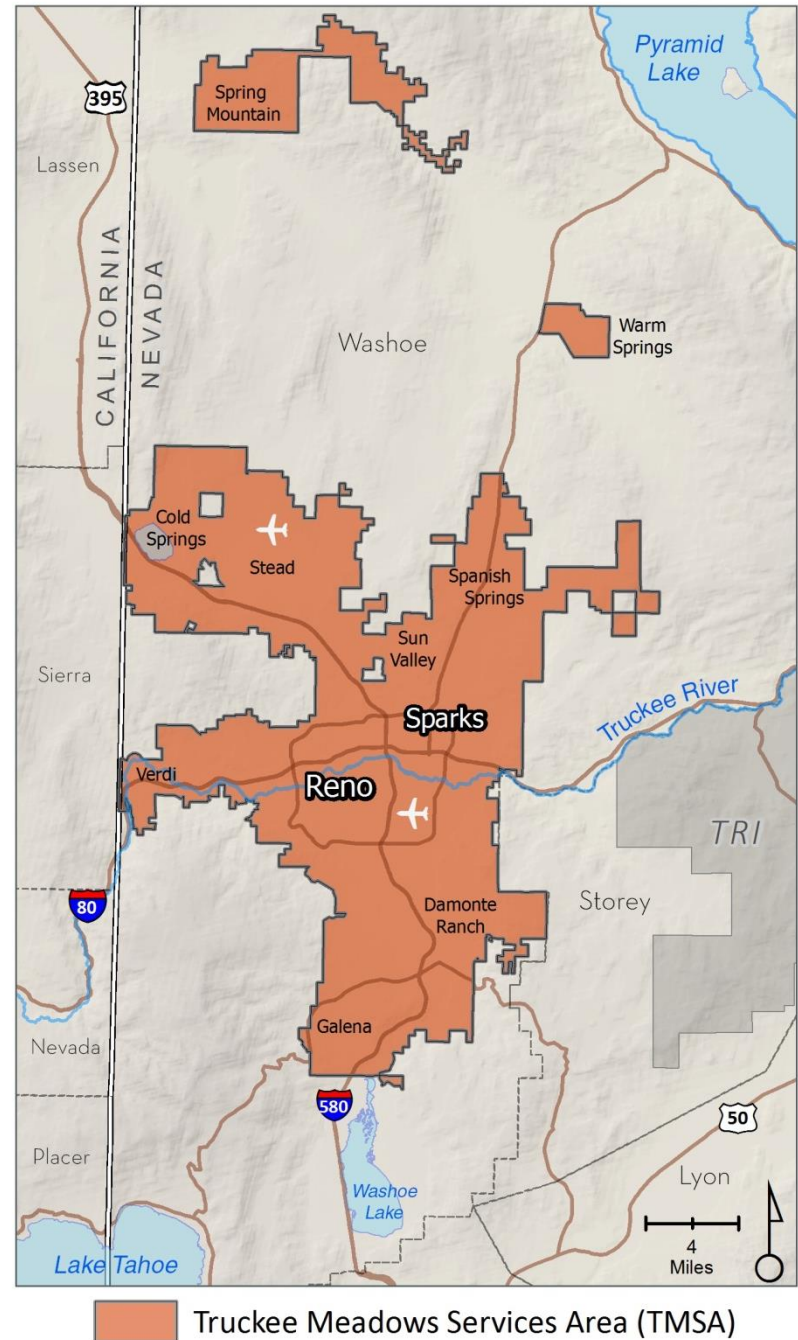


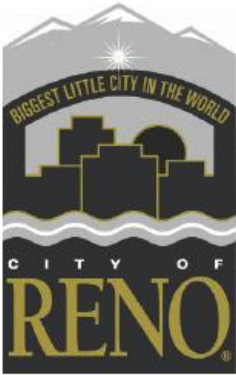


TRUCKEE MEADOWS HOUSING STUDY

Introduction

- Current Supply of Housing and Residential Land
- Housing Needs
- Future Housing Scenarios
- Implications for Public Policy





CURRENT SUPPLY OF HOUSING AND RESIDENTIAL LAND

Current Housing Types

Housing Type

Example Housing Types

Existing Housing Stock in the Region

Examples in the Truckee Meadows



Low Density
Single Family

- Single family detached unit on a lot of 20,000 square feet and larger

- 9% of Total Housing Stock
- 15,000 housing units



Moderate Density
Single Family

- Single family detached unit on a lot between 6,000 and 20,000 square feet

- 45% of Total Housing Stock
- 80,000 housing units



High Density Single
Family/Low Density
Multi-Family

- Single-family detached unit on a 4,500 square foot lot
- Townhouse on a 4,000 square foot lot
- Tri-Plex with 3,000 square feet per unit

- 18% of Total Housing Stock
- 31,000 housing units



Moderate Density
Multi-Family

- Two or three story garden or walk-up apartment building with about 15 to 30 dwelling units per acre

- 19% of Total Housing Stock
- 34,000 housing units



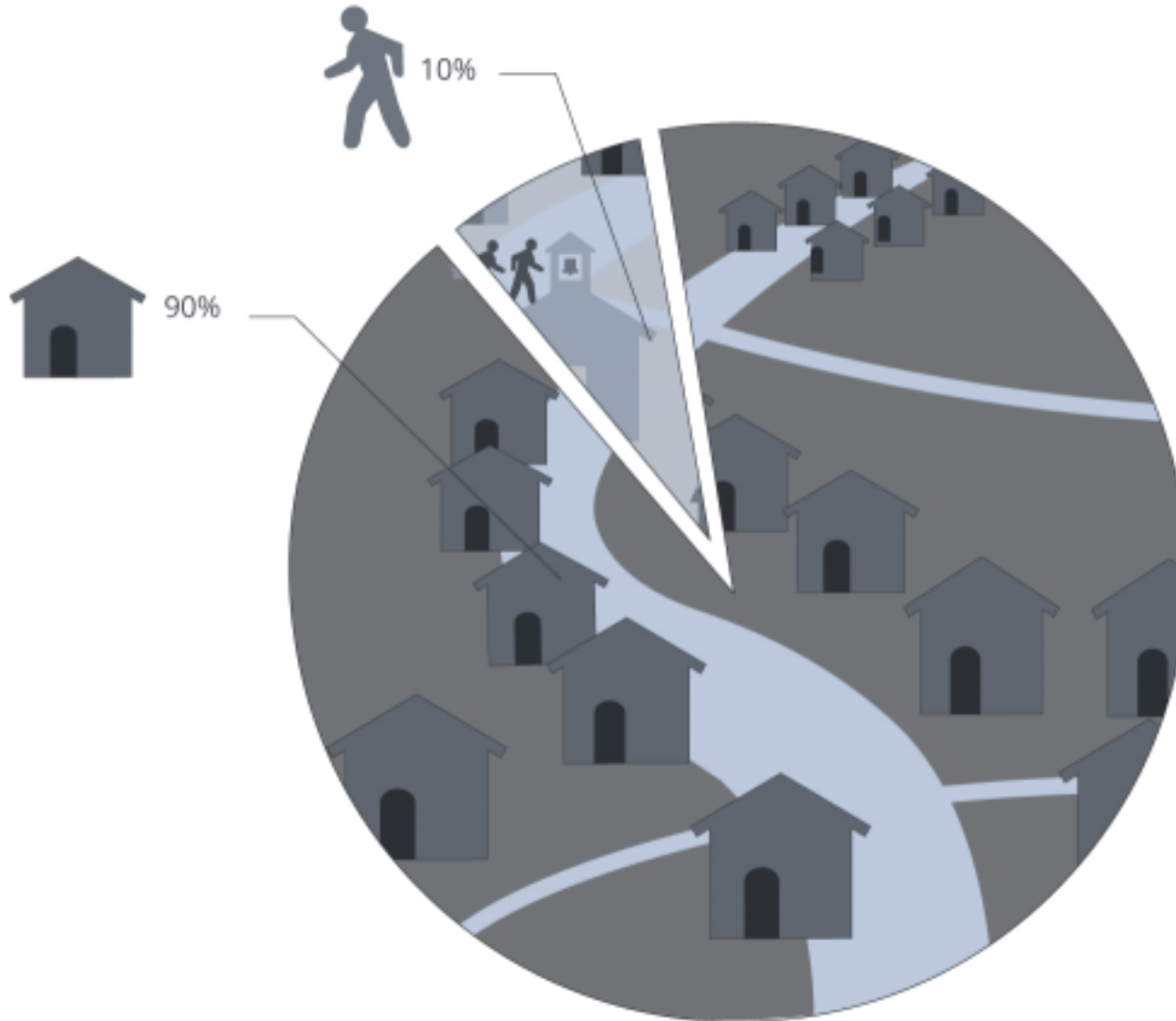
High Density
Multi-Family

- Multi-story apartment or condominium building with more than 30 dwelling units per acre

- 9% of Total Housing Stock
- 15,000 housing units

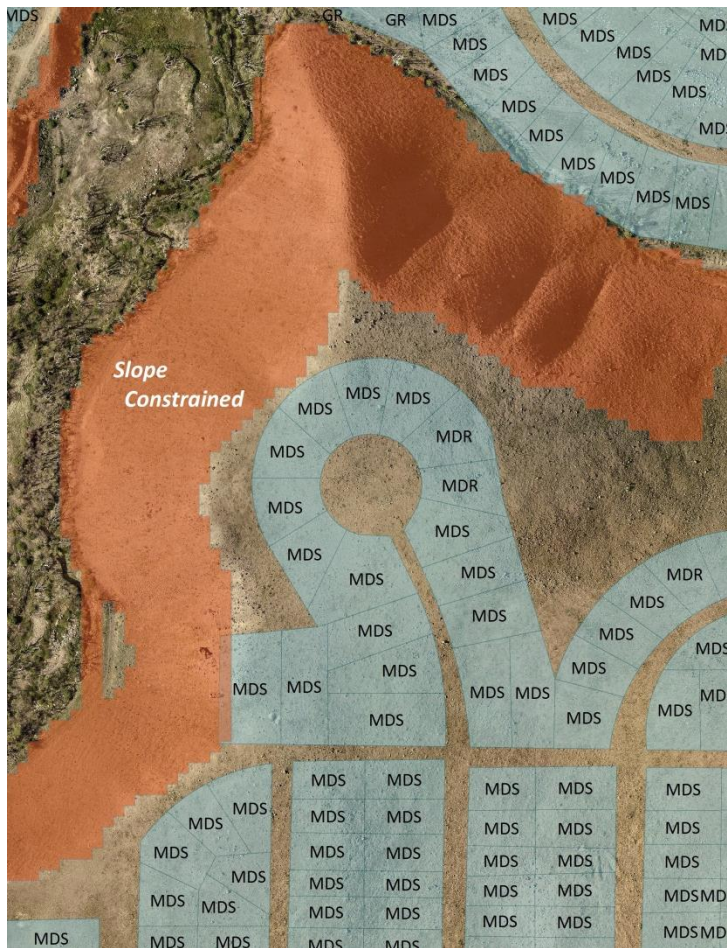


Location of Available U.S. Housing Stock



90% of available housing in the U.S. is located in a conventional neighborhood of single-family homes, adding up to a 35 million unit housing shortage. Source: Dr. Arthur C. Nelson, "Missing Middle: Demand and Benefits," [Utah Land Use Institute conference](#), October 21, 2014.

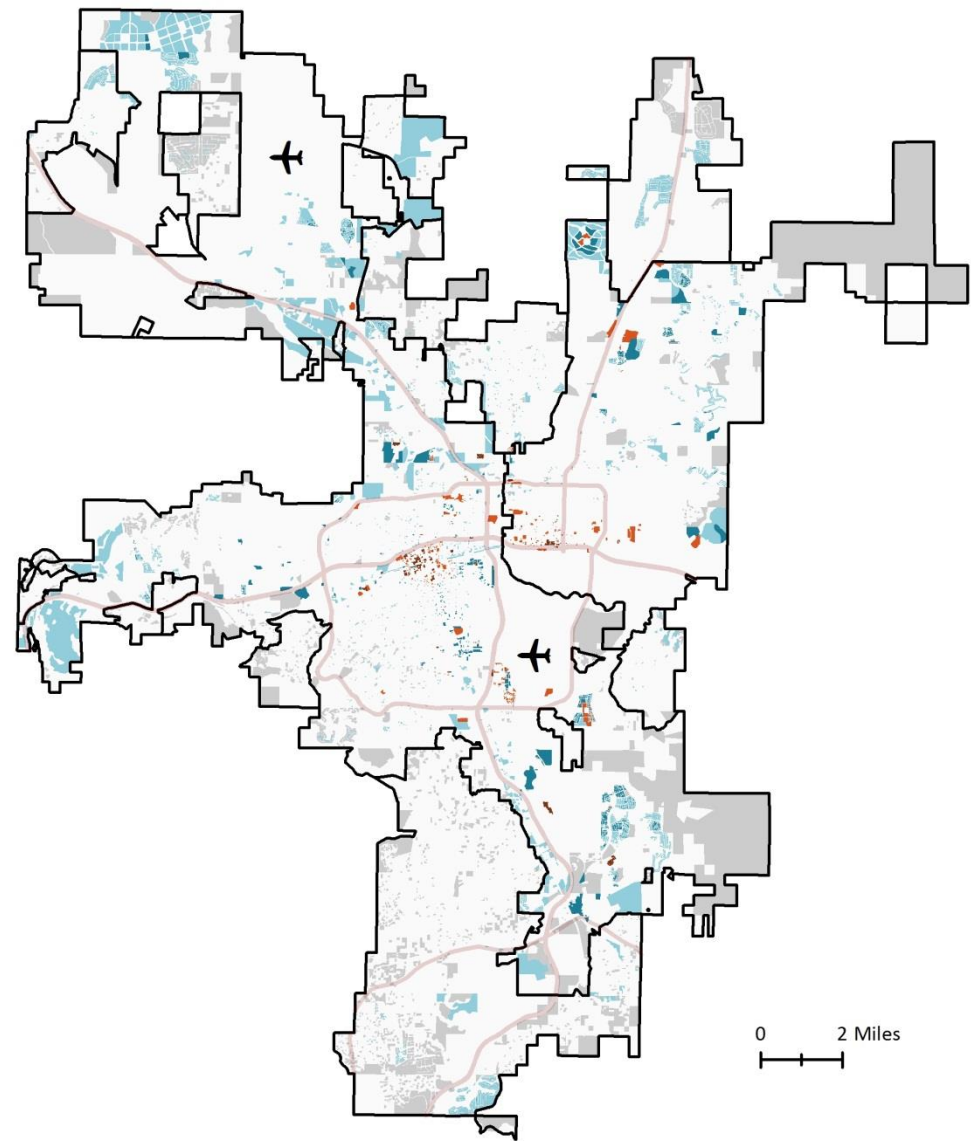
Methodology



- Identify residential land using zoning
 - Is it already developed? (Housing Stock)
- Identify vacant residential parcels
 - Unconstrained areas are buildable (remove slopes, public land, water bodies, flood)
- Estimate capacity of that land
 - Future units based on zoning / approvals

Zoned Residential Land

- 41,800 acres of suitable land in TMSA
- 95% currently vacant
- 83,000 new houses could be built on this vacant land with existing zoning
- 2/3 would be low or moderate density single-family houses
- Access to infrastructure is a concern



Housing Type



Low Density Single Family



Moderate Density Single Family



High Density Single Family/Low Density Multi-Family

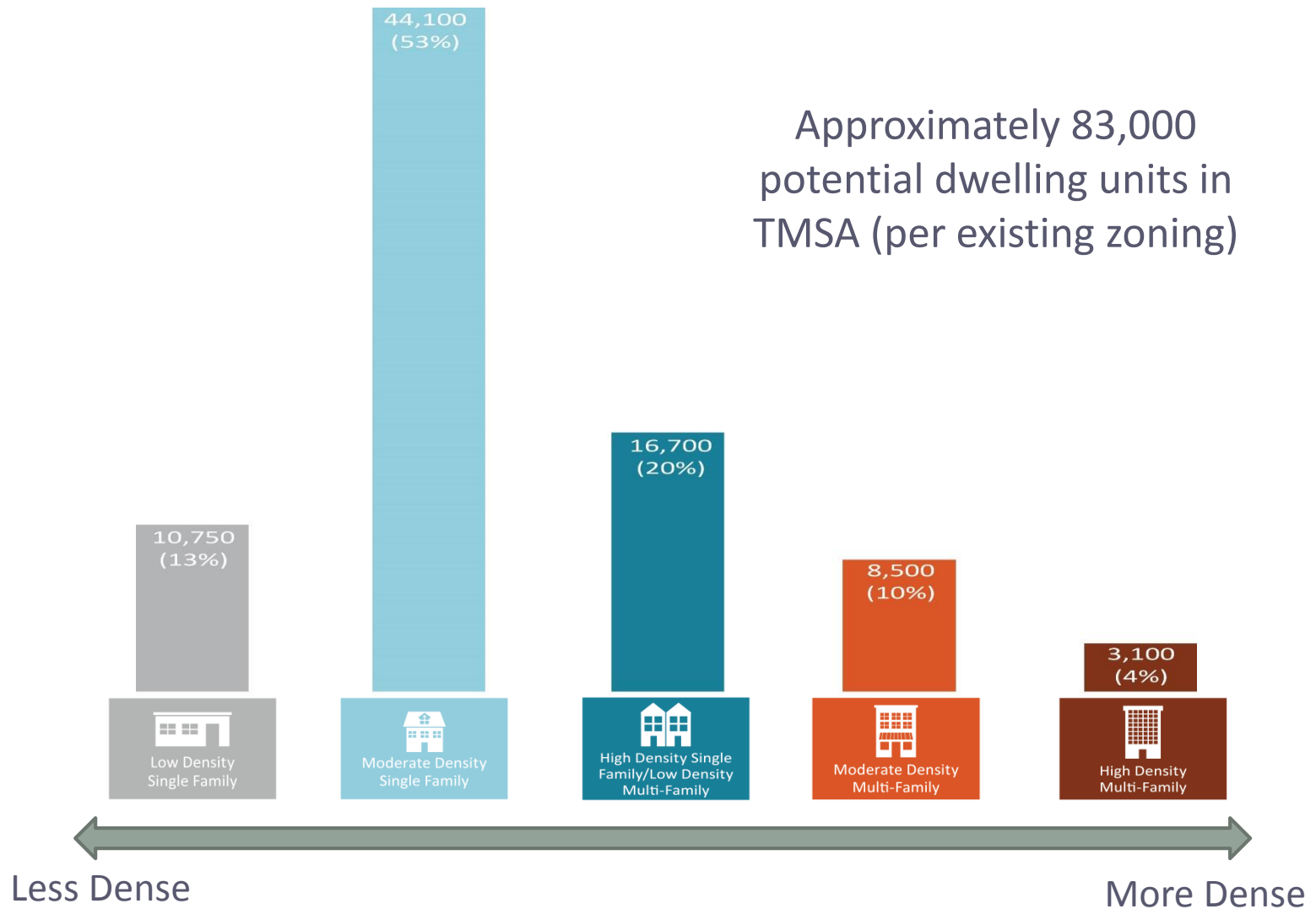


Moderate Density Multi-Family



High Density Multi-Family

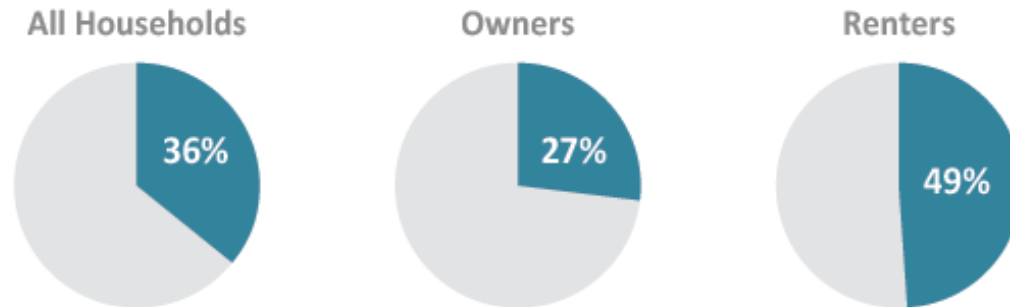
TMSA Potential Housing Units



HOUSING NEEDS

Housing Affordability

One-third of households in the region are cost-burdened



One-third of households have income below \$35,000 and cannot afford the median rent (\$875)

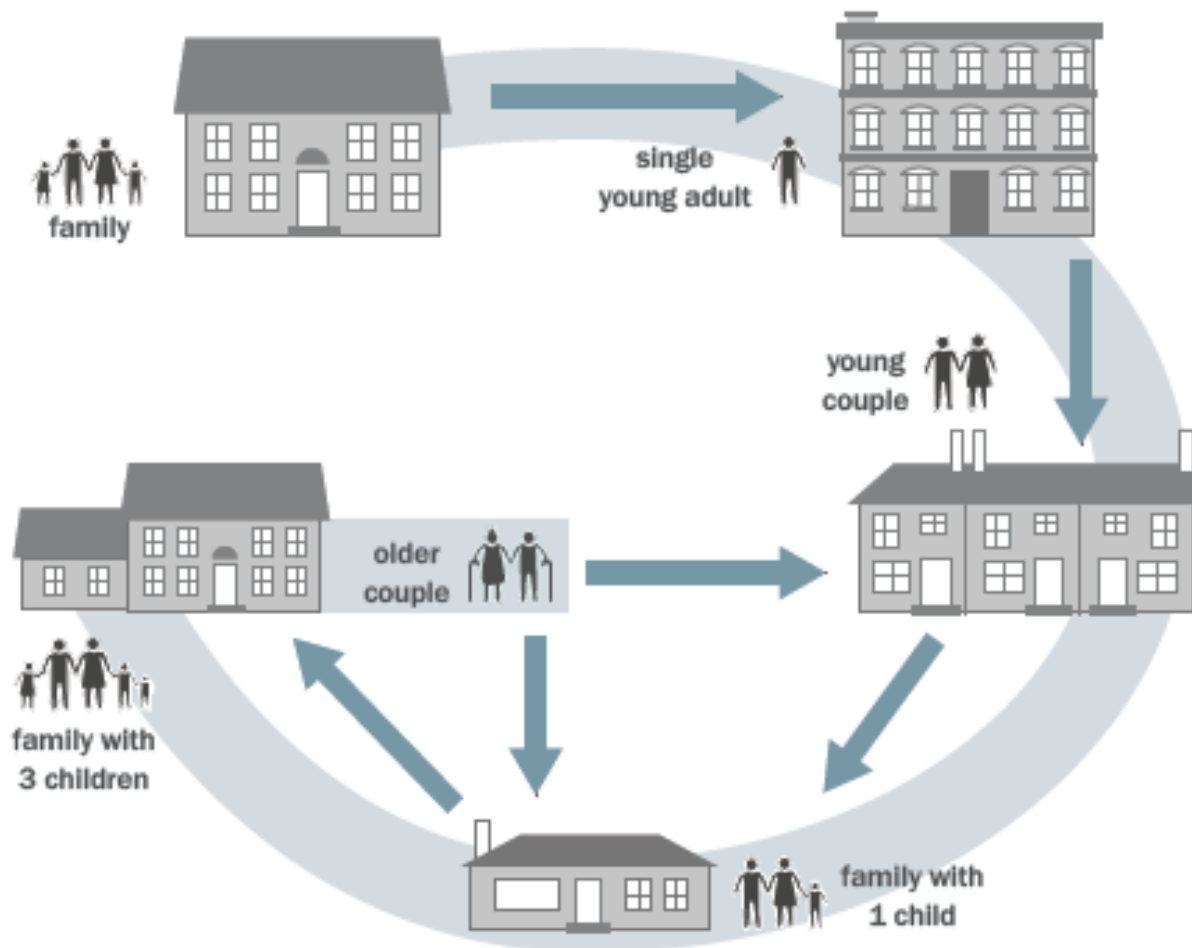
Annual Income	Monthly Income	Affordable Monthly Housing Cost	% of Existing Households with This Income	Typical Housing Type and Tenure
Less than \$20,000	Less than \$1,670	Up to \$500	18%	Apartment (Renter)
\$20,000–\$40,000	\$1,670–\$3,330	\$500–\$1000	20%	Apartment Small House (Renter)
\$40,000–\$60,000	\$3,330–\$5,000	\$1,000–\$1,500	17%	Small House Townhouse (Renter/Owner)
\$60,000–\$80,000	\$5,000–\$6,670	\$1,500–\$2,000	13%	Single-Family House Condominium (Renter/Owner)
\$80,000 or more	\$6,670 or more	More than \$2,000	32%	Single-Family House Condominium (Renter/Owner)

Missing middle housing



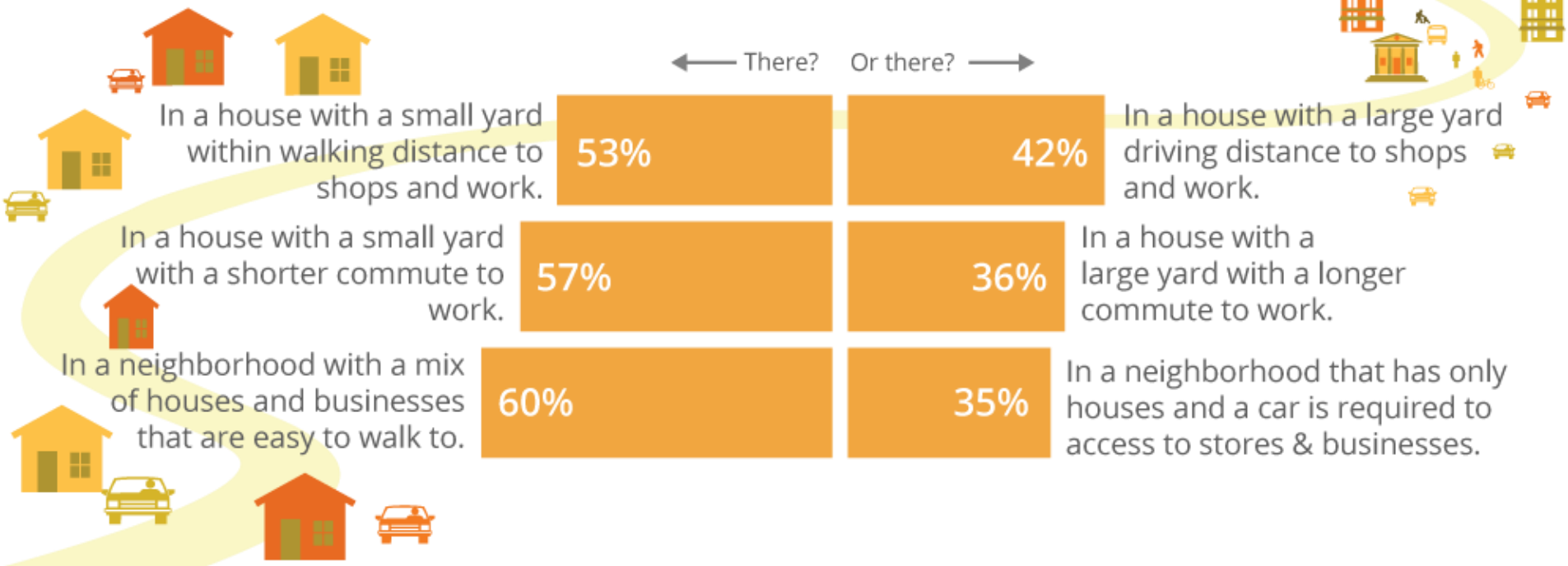
MissingMiddleHousing.com is powered by Opticos Design.
Illustration © 2015 Opticos Design, Inc





- Housing needs change over a person's lifetime.
- Homeownership rates increase as income and age increases.
- Choice of single-family detached housing increases as income increases.
- Renters are much more likely to choose multifamily housing than single-family housing.
- Income is a strong determinant of tenure and housing-type choice for all ages.

How Would You Prefer to Live?



Source: National Association of Realtors, [National Community Preference Survey](#), October 2013.

Demographic Changes

Likely Trends among Baby Boomer Households



Household Sizes
More one-person households



Homeownership Rates
Slowly decrease after 75 years old



Income
Income decreases, but some have accumulated wealth

Likely Trends among Millennials Households



Household Sizes
Increase as they form families



Homeownership Rates
Increases with income

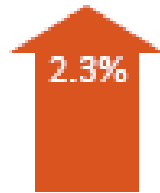


Income
Increases with age

FUTURE HOUSING SCENARIOS

Population Growth

Historical (1990–2014)



181,000 new people
7,500 new people per year

Forecast (2015–2035)



128,000 new people
6,400 new people per year

Convert estimated population to necessary housing units:

- Divide by US Census Person Per Household multipliers (roughly 2.5 people per unit)
- Account for vacancy rate of around 11% (US Census)

Equates to roughly 50,600 new housing units needed by 2035

Develop Scenarios

□ Classic Scenario (1)

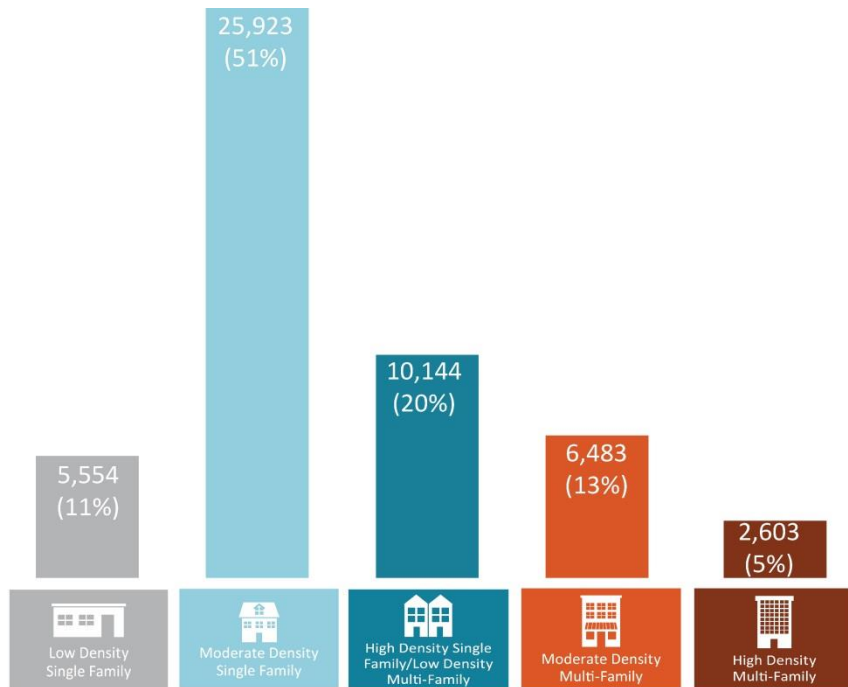
- Based on spatial pattern of recent home building, since 2000
- More development on the fringe of the community
- Allowed for very limited redevelopment
- Housing Type mix based on historic development percentages

□ McCarran Scenario (2)

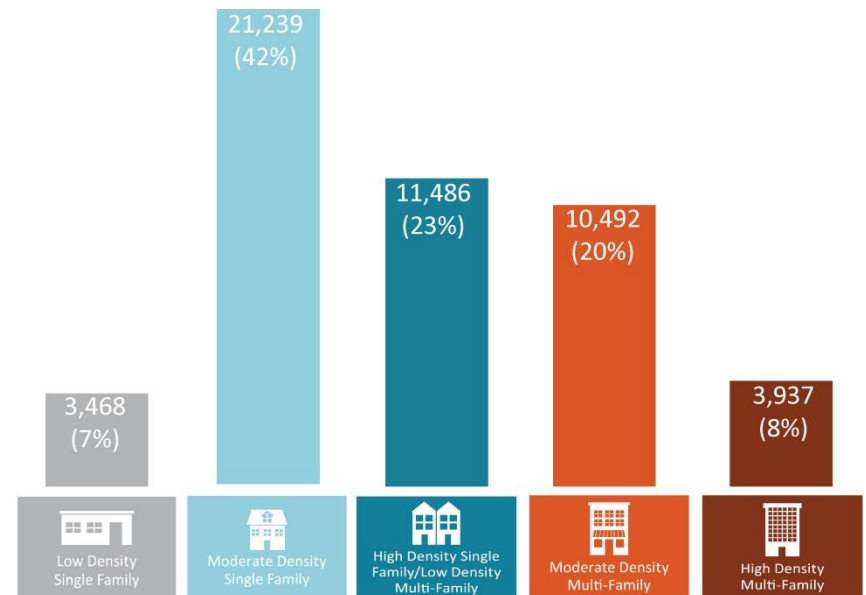
- Change in spatial pattern with more emphasis on core of our region
- 25% of new homes modeled within the McCarran Ring
- Increased redevelopment on currently built parcels
- Housing Type mix varied to increase higher density types

Housing Type Mix

Forecasted growth of 50,600 new dwelling units in TMSA 2015-2035



Classic Scenario (1)

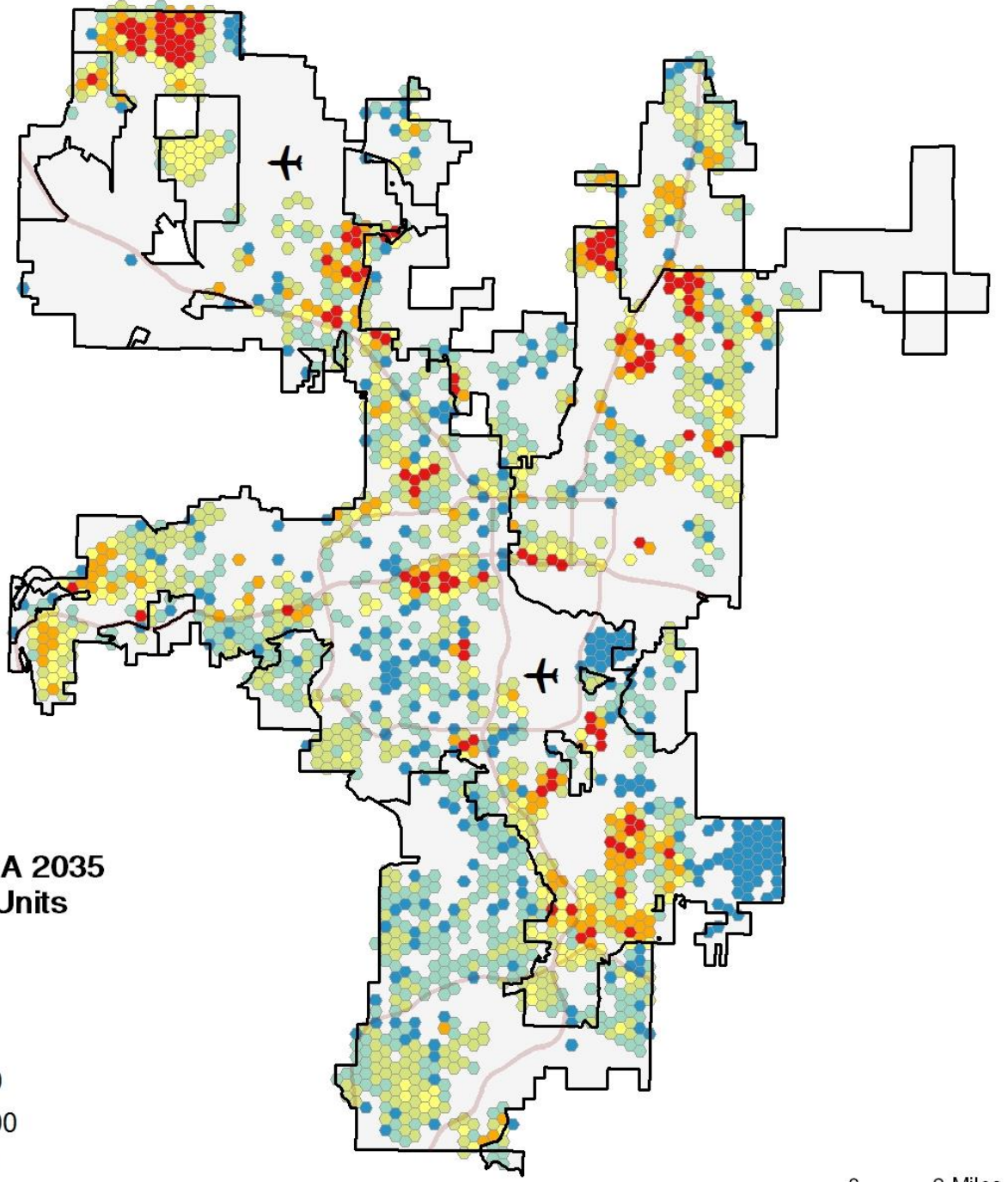


McCarran Scenario (2)

Classic Scenario (1): New Dwelling Units by 2035

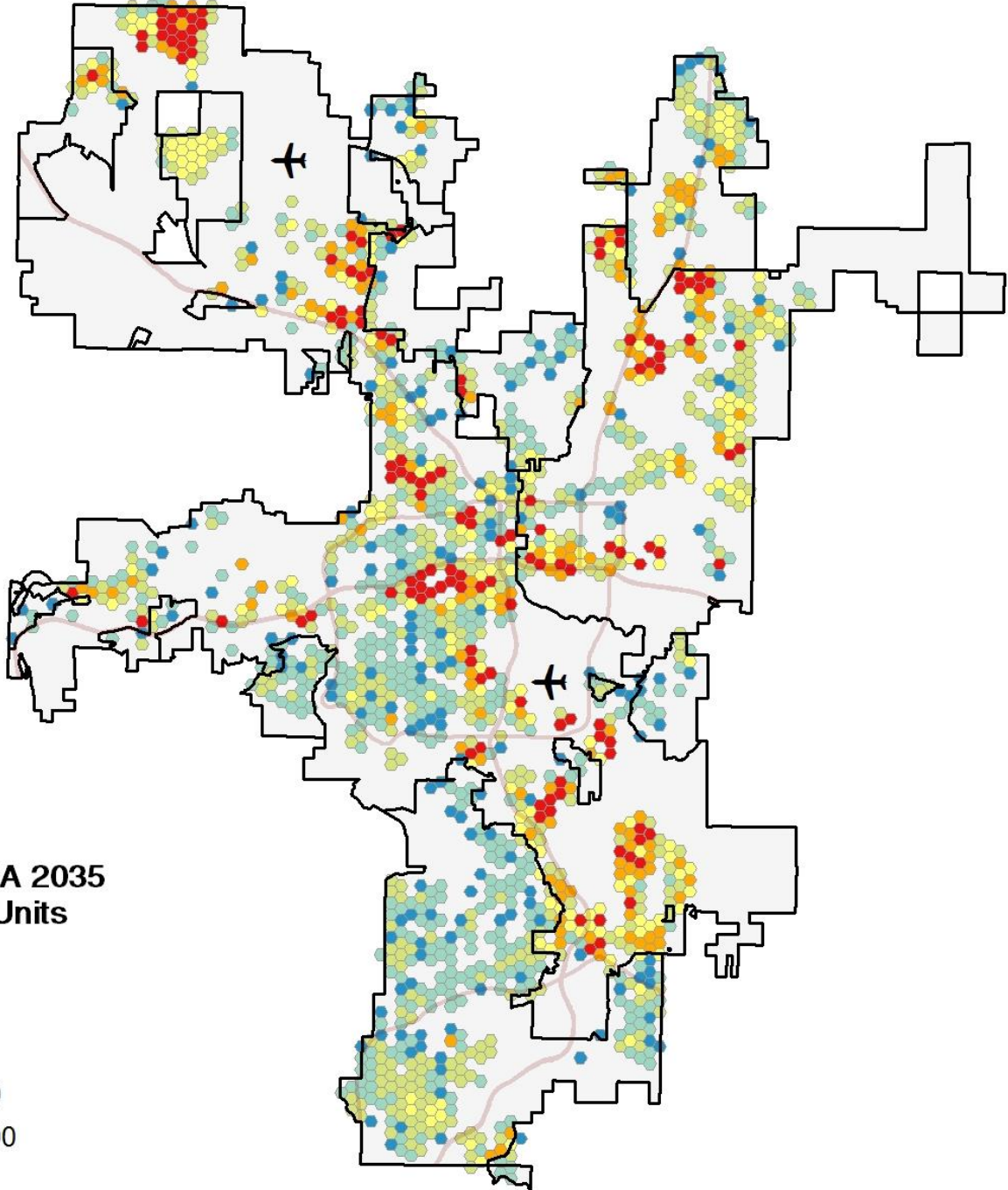
Scenario 1A 2035
Predicted Units

- 1
- 2 - 5
- 6 - 25
- 26 - 50
- 51 - 100
- > 100










0 2 Miles

McCarran Scenario (2): New Dwelling Units by 2035



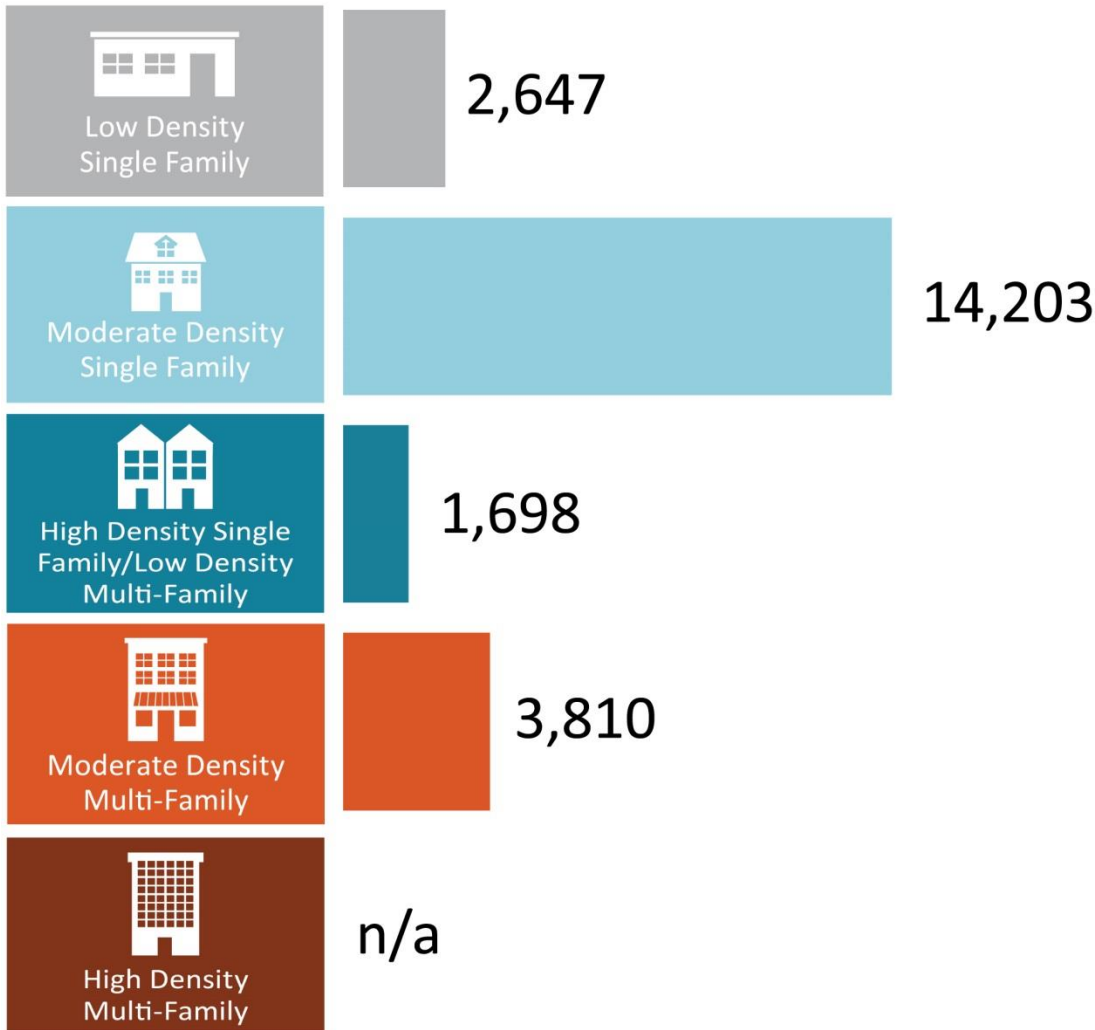
**Scenario 2A 2035
Predicted Units**

-  1
-  2 - 5
-  6 - 25
-  26 - 50
-  51 - 100
-  > 100

0 2 Miles


EVALUATION OF SCENARIOS

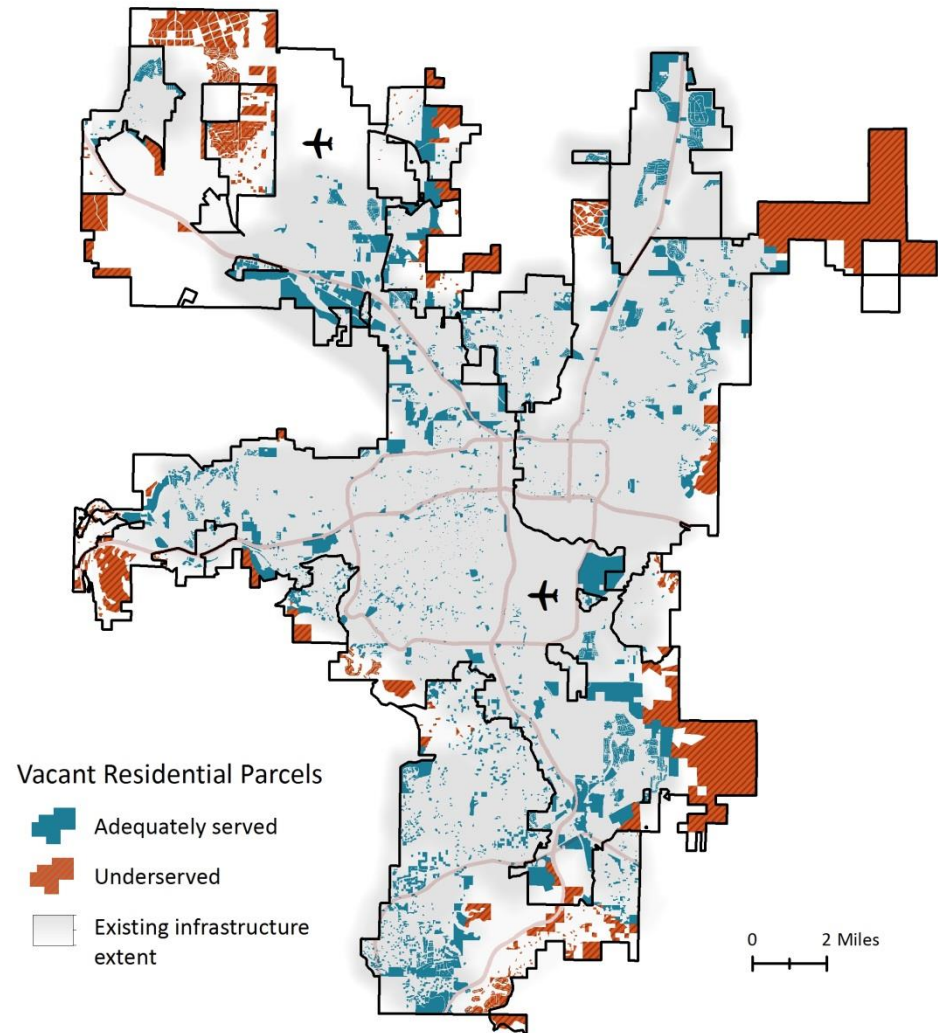
Market-Based Development Analysis



Number and type of dwelling units that are financially feasible given current market and zoning constraints on vacant parcels

Infrastructure capacity

- Evaluated the current spatial extent of regional infrastructure
 - Water pipes
 - Wastewater pipes
 - Major roads
- A subset of 52,652 potential units (approx. 63%) reside in the adequately served area

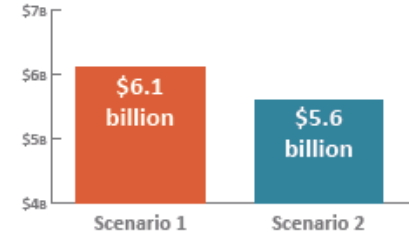


Regional Service Costs

- ❑ Collaborative effort with service providers
 - Transportation
 - School District
 - Water Service
 - Wastewater Service
- ❑ Focus on pattern of growth, not timing
- ❑ Ten percent (10%) reduction in capital costs in the McCarran Scenario (2)

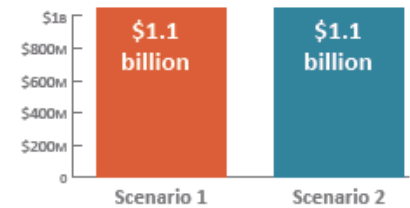
Transportation - Regional Transportation Commission

New roads in Scenario 2 cost about 9% or \$560 million less than in Scenario 1.



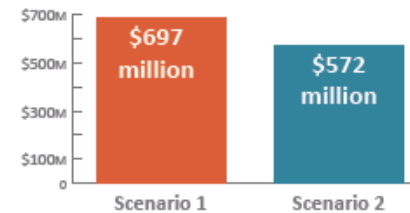
Schools - Washoe County School District

Capital costs for schools will cost about the same in both scenarios.



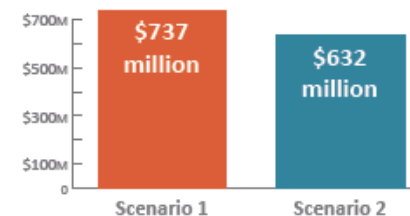
Potable Water - Truckee Meadows Water Authority

New water facilities in Scenario 2 cost about 17% or \$115 million less than Scenario 1.



Wastewater - Reno, Sparks, and Washoe County



New wastewater facilities in Scenario 2 costs about 14% or \$105 million less than in Scenario 1.





IMPLICATIONS FOR PUBLIC POLICY

Conclusions

- The Truckee Meadows needs a wider variety of housing types to meet anticipated demographic shifts and affordable housing needs
- Home ownership costs 60%  income 17% 
- Likelihood of residents continuing to afford homes similar to existing housing stock is diminishing
- Missing Middle housing represents a segment of housing types that can provide affordable workforce housing



Conclusions

- Local governments and service providers all face pressing fiscal challenges to provide services and infrastructure
- Location of housing is very important: servicing land in more compact development scenario is less expensive
- Capital costs for infrastructure in the McCarran Scenario is \$780 million less than Classic Scenario
- Equal to \$15,415 less per house

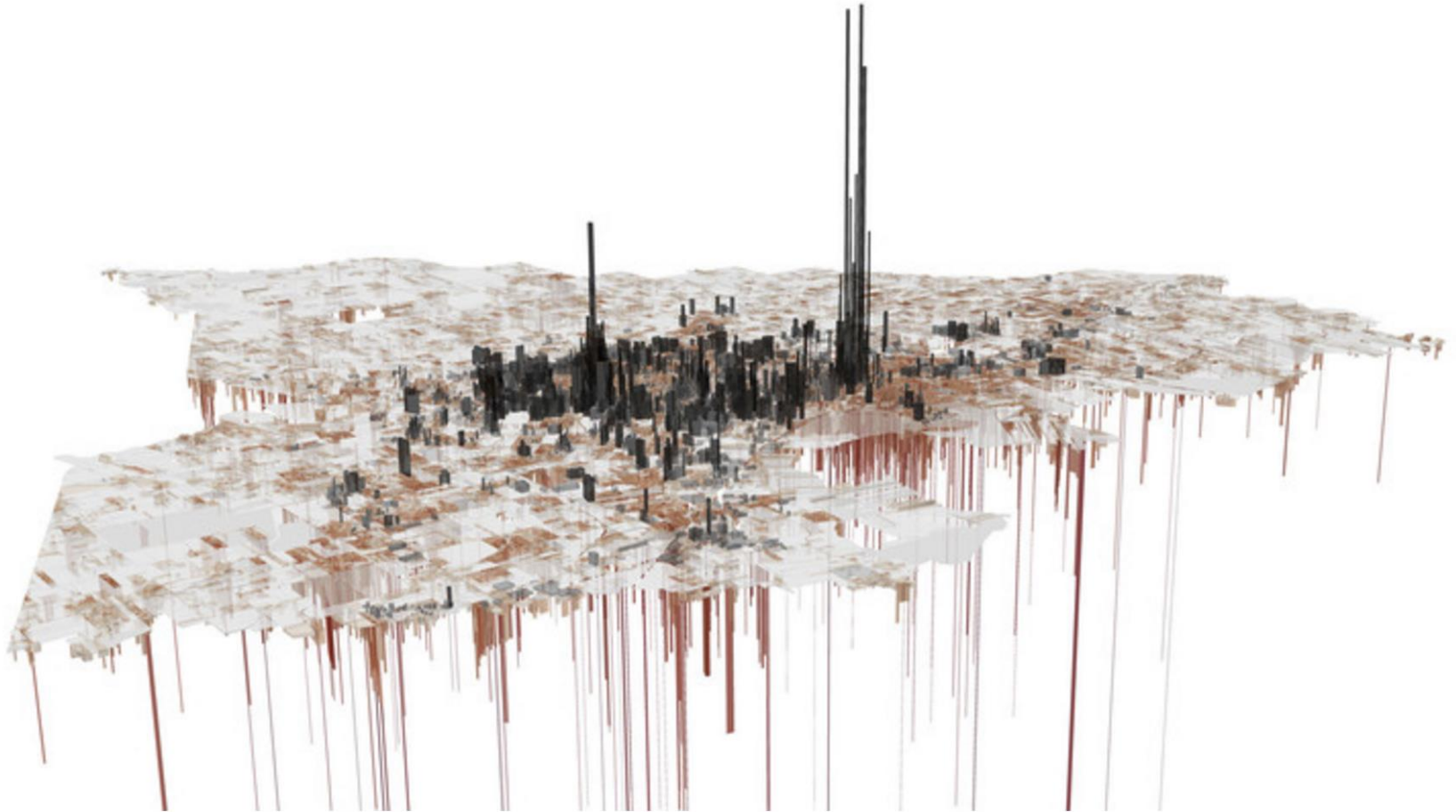
Housing Market Dynamics

- The private sector builds almost all of the housing units in the region;
- The types and location of housing built by the private sector is primarily in response to current housing market conditions, which include current public policies like zoning, public investment, and fees;
- Thus, the public sector is a partner in the provision of housing; and
- The public sector has larger obligations to ensure public health, safety, and welfare that it must balance as it tries to assist the private sector by reducing the costs of housing production.

Opportunities

- Consider housing and transportation costs together to capture housing cost burden in the region
- Further evaluate the links between housing, employment, essential services and transportation through 2017-18 TMRPA/RTC Shared Work Program
- Add scenario planning tools into the Regional Plan during the 2017 update. This should include the ability to analyze both costs and revenues for different development patterns

RETURN ON INVESTMENT



Source: <http://www.urban-three.com/analytics>

Opportunities

- Partner with local jurisdictions and affected entities to discuss existing and future capital improvement plans to maximize use of public resources
- Capitalize on public resource investments by supporting development in areas with lower infrastructure and service costs



Image: KOLO

Opportunities

- Review tensions between market trends and current land use regulations that inhibit infill + redevelopment
- Use financial feasibility modeling to understand current market capacity compared to approved zoning
- Create a small competitive grant fund to assist in developing denser housing, thereby reducing some risk for private market



Opportunities

- Consider reviewing new development for cumulative impacts based on availability and capacity of infrastructure and proximity to services
- Analyze long-term operations and maintenance required of the public sector to support development patterns, including review of total costs versus total revenues for services.



The logo for the Smarter Cities Challenge features a stylized 'N' shape composed of three panels: a green landscape with trees, a blue cityscape with a stadium, and a yellow map of a region.

Smarter Cities Challenge

A **Smarter Region**
transforms data into
actionable information.

Aware: Applies real-time analytics to monitor regional dynamics

Responsive: Efficiently provisions resources and services with advanced tools

Competitive: Models scenarios that attract industry and foster investment

Resilient: Forecasts change to proactively prepare and adapt



Thank You to our Partners

REGIONAL TRANSPORTATION COMMISSION

Amy Cummings, Director of Planning

Dan Doenges, Planning Administrator

Garth Oksol, Engineering Administrator

Julie Masterpool, Engineering Administrator

Xuan Wang, Senior Technical Planner

CITY OF SPARKS

Andy Hummel, Utility Manager

Armando Ornelas, Assistant Community Services Director

Jim Rundle, Planning Manager

CITY OF RENO

Aric Jensen, Director of Community Development

Bill Thomas, Assistant City Manager

David Kershaw, Associate Civil Engineer

Dustin Waters, Associate Civil Engineer

Kerri Lanza, Senior Civil Engineer

Sienna Reid, Senior Planner

WESTERN REGIONAL WATER COMMISSION

Jim Smitherman, Water Resources Program Manager

WASHOE COUNTY

Bill Whitney, Division Director, Planning and Development

Chad Giesinger, Senior Planner

Lydia Peri, Environmental Engineer II

Rick Warner, Senior Licensed Engineer

TRUCKEE MEADOWS WATER AUTHORITY

Brooke Long, Planning Engineer, Senior

Holly Flores, Planning Engineer, Principal

John Enloe, Director, Natural Resources Planning and Management

Keith Ristinen, Planning Engineer, Principal

Levi Kleiber, Manager, Lands Mapping and Records

Scott Estes, Director, Systems Planning and Engineering

WASHOE COUNTY SCHOOL DISTRICT

Joe Gabica, Chief Facilities Management Officer

Mike Boster, School Planner

Pete Etchart, Chief Operating Officer

Randy Baxley, School Planner